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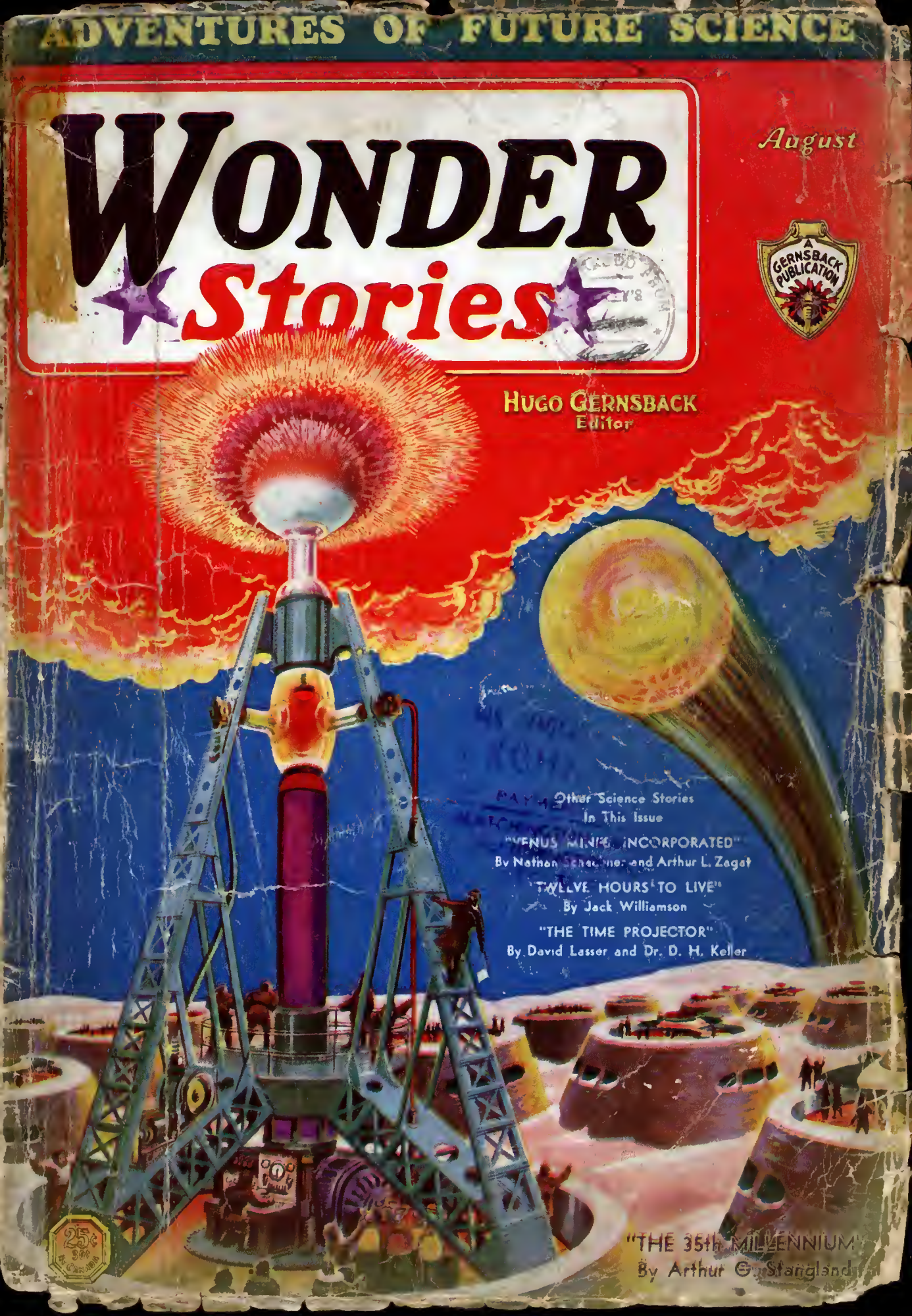
ADVENTURES OF FUTURE SCIENCE

WONDER Stories

August

A GERNSBACK PUBLICATION

HUGO GERNSBACK
Editor



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25¢

THE MAGAZINE
OF PROPHETIC FICTION

Vol. 3. No. 3

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August, 1931

ON THE COVER this month from Arthur Stangland's finely imaginative "The 35th Millennium" we see the great ball of destruction hurled by the merciless Kulons rushing toward the crimson vapor cloud of the Futurans, remnant of the civilized world. The icy desolation, of a new glacier age, is everywhere, walling them in.

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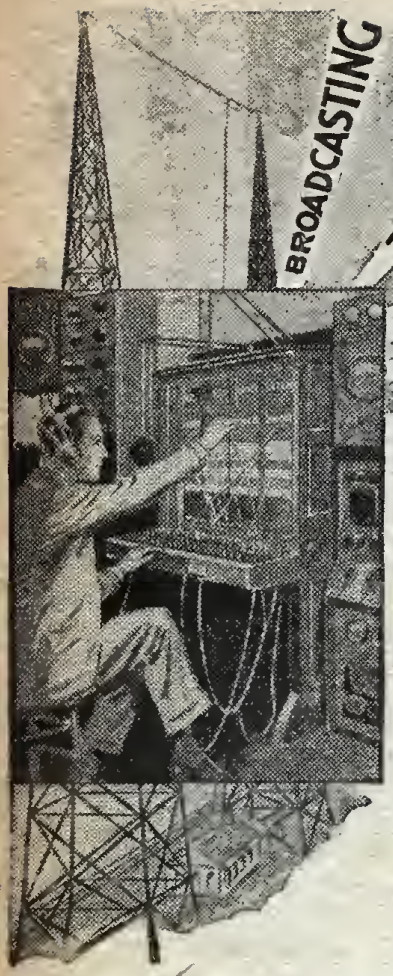

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VOLUME 3
No. 3

WONDER Stories

AUGUST
1931

. . . . Prophetic Fiction is the Mother of Scientific Fact . . . .

HUGO GERNSBACK, *Editor-in-Chief*
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WONDERS OF THE VOID

By HUGO GERNSBACK

THERE has been a great deal of speculation as to what would be the physical state of human beings, and their reactions to open space, once they were removed from the immediate vicinity of our planet. Of course, a good deal can be predicted by logic; but sometimes logic is faulty, in the absence of essential facts.

One of the points that has always been conceded heretofore is that, once you are away from the earth—let us say about 5,000 miles or more—the surrounding sky will appear absolutely black, and all of the stars will be visible at all times; because there is, of course, no day and night in open space, where the sun is shining at all times.

We are not so sure that this statement, as to the visibility of the stars, is entirely correct; it is probably true only in a limited degree. It is almost certain that out in space, where there is no atmosphere, the sun will be a great deal more brilliant, far more so than it is on earth; even when the sun is overhead, on earth its rays have to penetrate a very dense medium—an atmosphere which is some 300 miles thick—and the atmosphere absorbs a sufficient amount of light to make the most direct sunlight weak, as compared to what it is in free or open space.

It probably will not be possible to see the stars anywhere near the sun, in free space, unless you produce your own eclipse by blotting the sun out by means of an artificial small disc, which need not be very large. This will be done merely to shield the eyes from the glare of the sun; but, even with such an artificial eclipse, it is doubtful that you will see the stars within a considerable region around the sun, because his light is still much too strong. An example of this can be seen at any total solar eclipse on earth; though the sun is effectively shielded, 100%, the stars further away from the sun are seen better than those near to it.

One of the points about which we know little or nothing is the physical behavior of an animal organism inside a space flyer. Once a space flyer is out of the earth's gravitational field, the flyer will be in what is technically called a "free fall." He will be, physically, in exactly the same condition (except for air resistance) as an aviator making a parachute descent, before the parachute opens. In such a "free fall", the human body no longer has any weight, as regards the relation to each other of the organs and members; the word "weight" is now meaningless. While some aviators have made almost free falls, lasting as long as 15 seconds, nothing is known of the physical effects of the condition beyond this duration. How the human system will react towards a weightless condition, endured for days and months at a stretch, it is impossible to foretell. It may be that the effects will be negligible.

On the other hand, it may be that an entirely unforeseen sickness or disease will be caused by the total removal of gravitation. On earth, for instance, the human heart performs a prodigious amount of work in pumping the blood which, incidentally, weighs quite a good many pounds, through the blood vessels. Remove all this weight and the heart will, of course, be greatly relieved of its work and might start "racing"—I say "might" advisedly, because it is possible that the heart and nervous system would accommodate themselves to the change and nothing serious would happen. But this is merely a presumption; because no one really knows what can or will happen.

Of course, there is a preventive for the weightless condition. If we have a big enough space flyer, as some German engineers have proposed, we may create artificial gravitational conditions by putting inside the space flyer a sort of centrifugal apparatus to whirl the inmates around; this will create such an outward pressure as to make them feel at home. Whether this is a practical solution, we do not know. Time will tell.

Venus Mines, Incorporated

By Nathan Schachner and Arthur L. Zagat

(Illustration by Marchioni)

He had the port open and was throwing the box out in the direction of the WANDERER'S curving flight.

Venus Mines, Incorporated

By the authors of
"The Emperor of the Stars"
"In 20,000 A. D.!"

"HELLO, hello, hello, — Chris, do you hear me? — Hello, hello, hello." Arnim Penger slammed down the tele-talker and turned to his companion. "No answer yet."

"It's queer, all right, Mr. Penger. But what's there to worry about? We got Mr. Bell's message that he was back from his exploratory trip hours ago. And there's nothing could happen to him at the post, is there? He wasn't to start trading until tomorrow, so he must have had his Curtain charged and no Venusians in the enclosure. Besides, they're a pretty harmless lot, anyway."

The veteran trader shrugged his broad shoulders. "Nothing much could happen to him, I suppose. But this is the first time communication has failed." He fell silent. But there was a brooding light in his steel gray eyes, and a tense grimness about his fine bronzed features.

He stared unseeingly at the great pile of clotted spider web that filled half the trading room of the little post. A cool half million, that accumulated result of half an earth year's dickering with the natives was worth. And all it had cost Venus Mines, Inc., was some bushels of brightly colored beads and glittering gew-gaws dear to the savage heart.

"There's a Mitco post about some miles the other side of Bell's post," he mused aloud.

Britt Haldane turned from his contemplation of the grey bleached jungle, the dense, light-shot ceiling, the sheeted torrents of the typical Venusian landscape. "I say, you don't think there's any chance of trouble from the Martians?"

Penger shot a quick glance at the fresh-colored youngster with the starry blue eyes, and the tow hair that persisted in falling over his forehead. This eighteen year old lad brought back memories of the time, two decades past, when he himself was taking over his first station, on Jupiter. Those were unregenerate days, the Board of Planetary Control yet unborn, and life made zestful by the continuous guerilla warfare with the forces of Mitco, the great Martian Interstellar Trading Company, the Earth company's only rival.

"No, not much chance," he drawled, in reply to the lad's question, "they'd hardly challenge the B. P. C. 's wrath. And yet, if the stakes were great enough." He sighed, unaccountably. "Suppose I'm just fed up on these eternal rains. I'll be glad enough to get back to Earth when the relief ship comes, and leave you here."

Britt's face lit up. "Gosh, I can hardly wait to take over. To be a real Venus

THE attempts to portray realistically what the course of history will be after the planets of the solar system have been explored, are all praiseworthy. Such a new field for man's energies will be opened that the possibilities for him are almost infinite. He may find on other worlds valuable metals or chemicals that are non-existent on earth, and these may serve to revolutionize his whole life. He may come into deadly conflict with other life forms that seek to bar his peaceful conquest of interplanetary space. Man may become a supreme conqueror or an abject slave to an alien race, as a result of his attempt to extend his sway throughout the solar system.

The present story treats in a concentrated fashion some of the exciting adventures that man may meet beyond the earth's protecting atmosphere. It marks a new triumph for our popular authors who are masters not only of exciting stories, but those of originality and surprises.

trader at last, in charge of my own station." He saw the older man's amused smile and added hastily. "Of course, it isn'tisn't that I want to see you go, but—you know how it is."

Arnim nodded. "Yes, I know how it is. I felt the same way when I took over my first assignment. It sure was a kick. Two days later I was crouched behind a barricade of ice blocks, taking pot shots at a bunch of Martians who were doing their damndest to exterminate me and a couple of other Earthmen, and grab off the richest *jovium* mine on Jupiter for Mitco.

"There were no Interplanetary Filing Laws then, no taking a bunch of papers over to the office on Ganymede, and thereafter being protected by the Mercurian patrol ships with their zeta-ray projectors.

ARTHUR L. ZAGAT

"You took what you could get, and held it by the power of your own guns."

The youth's eyes glowed. "It must have been great! Wish I'd been in the game then!"

"You weren't born then, young fellow." Penger's eyes wandered past the lad to the teeming landscape revealed by the open door. "Hello, I don't like that coppery tinge to the clouds down on the horizon. Looks like we're going to have a taste of one of the electrical storms old Venus favors us with once in a blue moon. Get out in one of those, and you'll be ready to give up, damn quick. Even the natives scurry to their caves when one of those is on a rampage."

His eyes narrowed as he gazed out. The dripping jungle pressed its greyness close up against the interlacing net of copper filaments that was the Curtain, the apparently frail barrier around the liquid mud clearing of this outpost of Earth's commerce. From the low ceiling of dun clouds poured a torrent of warm rain that might dwindle to a drizzle, or increase to a devastating downpour, but never for a moment ceased. Far off, the clouds were suffused with a reddish, ominous glare.

"Come on," he said at last, as he sealed the door. "Work's over for another twelve hours. Start the drying machine, and we'll get comfortable. Then I'll try to get Chris again. If he hadn't borrowed the *Wanderer* for that trip of his I'd be tempted to hop over and find out what's up."

NATHAN SCHACHNER

Haldane obediently swung over the lever of the artificial atmosphere machine that reproduced Earth conditions for the traders during the rest-periods. As the air dried, the two stripped off the sodden working suits. Britt stretched himself luxuriously as the moisture was sucked from the bronzed skin of his nude body. "This is a little bit of all right; let it storm for all I care."

PENGER looked estimatingly at the young fellow. Was he going to stand the gaff, he wondered, alone with the treacherous natives, and the eternal rains, and the horrible loneliness? The loneliness—that was it. Would this fresh-faced, eager youth break under the strain of the long months with no one of his own kind to talk to, to look at? Well, Chris Bell would be only a few miles away. That reminded him, he still hadn't gotten through to old Chris. He turned to the transmitter.

But, as he did so, there was a crash, and the neon lights went out. Their cold white light was replaced by a blinding blue glare as the outer world was illumined by a tre-

mendous lightning flash. Then it was pitch dark, as the muttering rumble of the thunder died away. But through the diminishing growl, and the pound of the torrential rain on the roof, came the high whining signal of the field receiver. Arnim sprang to the instrument. Unerringly his fingers sought and found the switch and thrust it home. Out of the blackness a voice sounded, a precise, clipped English voice, yet strained and urgent, shot through with pain and exhaustion.

"Penger, Arnim Penger, are you there? Penger, Penger, help, Penger!"

Arnim snatched up the transmitter. "Chris, Chris. I'm listening. It's Arnim Penger. What's the matter? Quick, man! What's happened to you?"

The far-off, disembodied voice seemed to be dying out. "Arnim. Thank God—you answered at last. It's hours. Help—help—he-e-lp!" It died out to a whisper, then, abruptly, it was gone.

"Chris, what's the matter? What happened?" The trader was shouting into the transmitter, but only the rattle of the raindrops, and a crash of thunder, answered.

The lights came on. Haldane was standing just behind, white-faced. Penger gazed at him, unseeing, his eyes steely flames. His great fists clenched. "Britt," he snapped, "take over." He was out in the anteroom, struggled into a fresh suit of corduroys, pulled on his *banta* waterproof.

As his face appeared out of the black folds it was set, grim. "If you don't hear from me by the time the relief ship gets here, have 'em send a force over to Bell's post. No trading. God knows what the Venusians are up to." He was strapping on the huge mud-shoes.

Britt came out of his daze in a tumbling rush. He fairly stuttered in his eagerness. "I say, you can't do that—I mean you can't go alone. I'll go with you—otherwise—Good Lord, you know what I mean." He fell into a sudden silence, but his eyes pleaded for him.

Penger shot one glance at him. "You'll do," he said laconically. "Hop into your clothes."

Haldane blushed with pleasure at the veteran's brief praise, even as he shot hastily into his clothing. Arnim stood in the doorway, waiting impatiently. The younger man snapped the elastic of his respirator-mask over his head, settled his hood down over the goggled eye-pieces. "I'm ready, sir." The mouthpiece of the mask muffled his tones strangely.

They were out, in a world gone mad. From black clouds that seemed not fifty feet over their heads, forked lightnings shot incessantly, shot and stabbed at them as if the elements themselves had risen in wrath to oust these beings from an alien world. To the continuous roll of thunder was added the crash of the nigh solid sheets of water that beat down upon the Earthmen, strangled them despite their masks, strove to drive them into the viscid mud that oozed fluid beneath their wide-spreading mud-shoes.

In the flickering blue light beyond the Curtain, the tall ferns were blattened down over the tangle of writhing vines and lush wire-grass till the thicket seemed a solid mass, compressed by the weight of tons of water, lashed by a wind of hurricane force.

Haldane gasped, and paled. Even Penger, veteran though he was, hesitated for an instant. It was the height of insanity to dare the long journey in this chaos. No one could live through it. But then he remembered that call, coming eerily out of the darkness. "Help, Penger, help." Chris Bell was in trouble, needed him! Chris, who had fought at his side on Jupiter, a score of years ago. He hunched his shoulders, thrust his massive head before him, and bored into the wind that was a solid wall. He'd get to Chris despite all hell!

Through the Jungle

BRITT was lifted from his feet by the wind, thrown against the heavier form of his companion. Arnim shouted something, the lad could see his lips moving, but could hear nothing above the tornado's roar. A dripping arm gestured to the door of the little building they had just quitted. Penger wanted him to go back, thought this damn storm would lick him. It was dry

there, dry and safe. So easy to let the wind blow him back. In all this time they had struggled only fifteen feet. After all, this was his post, the station he would be in charge of as soon as the relief ship picked Penger up. No one could blame him for staying behind—for obeying orders. But—he was a "Venus, Inc." man, one of the stalwart company that was conquering the far planets for Earth. And another "Venus, Inc" man had called for help, off there in the storm-lashed jungle. He shook his head, thrust away the hand that was pushing him back.

Again Penger's hand sought his shoulder, but only to squeeze it in token of approval. They slogged into the storm again.

At last they were through the Curtain. Arnim turned, took something from the voluminous pocket of his waterproof. A tiny radio-transmitter, low powered, sending only a long dash that varied complexly in wavelength for a half minute. The key to the Curtain! Penger pressed the button. A coruscation of tiny flashes snapped through the wind-tossed filaments. The power was on—that apparently frail barrier hummed now with the Grendon vibration.

Britt could see the driven rain rebound from the invisible wall. Nothing, no human body, no Venusian dart, not even a high-powered electro-bullet could pass through the net. The station was safe, protected against all intrusion until the machines that produced the vibration were stilled by another pressure on the little instrument with its secret combination of frequencies.

Into the jungle. Crawling now, through chance found gaps in the matted chaos of the cyclone-pounded vegetation. The black quagmire sucked at their feet, clinging lianas twisted around them, clung tenaciously. Thorns ripped at them. A bolt of lightning struck, not a score of feet away, and sent a towering twisted fern into flaring destruction. The Venusians, fish-scaled and web-footed though they were, dared not prowl abroad. The very beasts—strange amphibious creatures of a steamy, primitive world—cowered in their lairs or dug themselves deep beneath the sheltering mud of the jungle tarns.

But the Earthlings pressed forward, deafened, gasping, half-drowned, wholly exhausted. A yard, a foot, an inch at a time. Crawling, scrambling, twisting, dragging themselves through the terrific storm to answer a comrade's cry for help. Slogging into the hurricane for hour after hour of interminable, inhuman struggle.

* * *

Two mud covered figures reeled out from the edge of the jungle, dazed, bewildered, dizzy with exhaustion. Just ahead hung the filaments of Bell's Curtain, intact. They were through! Through the jungle and the storm the daring adventurers had reached their goal. How long it had taken them, by what devious route they had come, they never knew.

Sometime during that endless journey the electrical storm had ended, but they had never noticed it, so stunned had they been with the turmoil of the elements. Behind them the drenched and cowering jungle was straightening. The drab cloud ceiling was shot through with light. The rain had diminished to a tenuous drizzle. Fine weather—on Venus.

Ahead, within the circling Curtain, was a sea of mud. A torpedo-shaped, two-man flier glistened in the filtering light, half-hidden behind a squat, rough hut, whose door hung open. What lay behind that door?

CHAPTER II

Through the Curtain

PENGER, his *banta* waterproof hanging in shreds, moved forward wearily. As he came into the open, a hiss ripped the stillness, a red streak flashed past his hooded and masked head. The trader whirled, threw himself headlong to the ground. "Down! Down, quick!" he shouted to the startled Britt. The youth dropped.

"What the—"

"Shut up." Arnim's whisper was urgent. "Lie still."

The lad twisted his head. His companion's projector was in his outstretched hand, his keen eyes were darting from point to

point of the thicket. Fatigue seemed forgotten. Where his waterproof had been torn away by some thorn, the cords of his neck stretched tensely.

"What's up?" he breathed.

"See that, out in the mud."

A tiny dart, scarlet feathered, lay there. A Venusian poison dart. A little shiver thrilled the youth. He had seen a huge three-horned *ratlos,* ten feet high at the shoulder, brought down to instant death by one of those, sent with unerring skill from the blow-pipe of a native hunter.

"Came damn near finishing me. They're —Wah!" The angry spat of Penger's weapon interrupted. An acrid smell of burned flesh stung Haldane's nostrils. "Got him!"

"Where? Who?"

"To the right. See, behind that S-shaped liana."

The lad stared. At first he could see nothing, then a tiny patch of silver appeared, just beyond the arm-thick vine Arnim had indicated. The youth started to rise, but Penger's steely clutch stopped him.

"Down, you fool! There may be others. Stay here, till I call. And don't move, if you want to see Earth again."

The motionless youngster watched Penger slide through the mud. So slowly that Britt looked twice to make sure he had moved at all. He disappeared beneath a clumb of brown fungi, umbrella shaped. His black hood appeared above the toadstools, his shoulders glistening black with the dampness. Haldane clenched his fists, nervously. What an awful chance he was taking. Suppose there were other unseen hunters, watching for just this chance?

"All right, lad, come along." Penger's call seemed to come from the ground, off to one side! Then—who was standing there? Was it Bell? The novice rose, ran forward, crouching, to where the other had suddenly appeared, without his *banta* cloak.

As Haldane reached his companion, the mystery of the seeming newcomer was solved. Penger was pulling his waterproof from a withered fern-frond that was supporting it. He smiled grimly at the white-faced youth's ejaculation.

"Thought I was asking for a dart, did you? Just slipped this coat off, stuck it up, and squirmed away. If there had been more of the natives around I'd have known it damn quick—maybe gotten a chance to take another clip at one. Let's see what this bird I brought down looks like."

Britt shuddered as he stared down at the prostrate savage. In spite of the low-browed, primitive face, noseless, and with gills where the ears ought to be, in spite of the naked savage's fish-scaled skin and webbed feet, the youth could not help but feel him human. Only a few hours ago others of his kind, perhaps this very individual, had been chaffering with him at the trading post. And now, he lay there, unmoving, a great gaping hole in his chest, black-charred at the edges. Those electro-bullets did terrible execution when their high-powered radite charge was released on impact.

"Come on, Britt. He's dead to stay. Let's get in to Chris."

Penger had his little combination set in his hand, had pressed the switch button. The hum of the generator from the hut in the centre of the compound ceased. The two dived through the dangling filaments, and Arnim flashed on the protecting vibration again. Just in time. At the jungle edge another Venusian had appeared, panting. His dart whirred from the hollow reed he raised to his mouth, fell back impotently from the Curtain. "Nothing wrong there," gasped Britt.

THEY had clumped wearily through the viscid mud, were at the hunt's entrance. "Chris!" Arnim called, "Chris!" We're here!" Then there was a choking gasp. "Damn them, oh damn them." It was a sob, and a prayer for vengeance.

There, on the wet, green-slimed floor lay Chris Bell. His tall thin form was contorted in agony. The sharp features were clammy white, the little black mustache blacker yet by contrast. The transmitter of his tele-talker was clutched tight in his right hand, the sleeve ripped away, showed a livid, staringly red burn on the white arm.

His right foot was bare, the trouser cut away. The leg was swollen to twice, three times its natural size up to where, buried in

the blackened flesh, a twisted leather thong cut in—horribly. On the floor a red-feathered dart, its tip blood-stained, told its mute story.

"Chris, old man, wake up. We're here. Chris! God! He isn't dead. He can't be gone!" Penger's hand was within Bell's shirt. A faint flutter, almost imperceptible, beat against the probing finger tips.

"Whiskey! Britt—there must be some around. Find it, quick!"

Haldane shot a quick glance around the little room. On a shelf he saw the familiarly shaped container, the purple B. P. C. seal unbroken. He twisted off the sealing cap. Penger had the bottle-neck between Bell's teeth. A little rivulet dribbled out at the corners of Chris' mouth, then he swallowed, convulsively. The eyelids flickered. A grimace of pain distorted his face. A groan, then his eyes opened.

"Arnim!" His voice was a shadow. The words were being forced out by sheer will power. "Never mind me—done for. Papers—in flier—must be filed—at once. Letter too—explains. Go!"

"Chris, old boy, what happened to you? How did they get you?"

The dying man motioned to the bottle. Penger administered another dose of the stimulant. A little color came into Bell's cheeks. "Why don't we do something for him, Mr. Penger?" burst from Britt.

"Nothing we can do," was Penger's hopeless response, "once that dart-poison gets into you it's only a question of time before you kick off. Only thing that's kept him alive so far is the thong he's tied around his leg. But the poison's seeping back in spite of it—can't you see how black his skin is above the tied part? Soon it will reach his heart."

Chris was talking again, his voice a little stronger, with the false strength lent it by the whiskey. He was answering Arnim's last question.

"Came through the Curtain."

"Through the Curtain! How the hell—"

"Yes. Through the Curtain. It was charged, damn sure of that." Bell's voice was blurred with agony, low, but very clear. An inner strength seemed to be supporting him, to be warding off the hovering death. "It was charged, but just as I was going over to the *Wanderer* to take off, there was a whine from the jungle, a whine that rose and fell, and a shower of darts. Most struck against the Curtain, and fell, but some got through, and one clipped me, hung in my leg." A glance of astonishment passed between Penger and Haldane, but they did not interrupt the wounded man's laborious narrative.

"I dragged myself in here, strapped the leg. Knew it was no use, but I had to get a message through to you. I called and called, while that whine rose and fell, rose and fell out there somewhere, and the damn savages showed themselves around the Curtain and blew their darts through it. I watched them, through the open door, while I called to you, and waited, dizzy, for the answer that never came.

"Just a little round spot, I noticed, in the Curtain where the darts came through. I kept shouting for you, till I passed out. Then I came to again, and called again. And that infernal whine still came from the jungle, and the fish-faced natives were dancing. And still you didn't answer.

"Then everything went black again. Don't know whether I dreamed or not, but it seemed I came to, and the noise from the jungle was louder, and through a haze I though I saw a Venusian creep up to the Curtain, and start through. Coming through the Curtain, though I could hear my generator going full force! Then, when his body was half-way through he seemed to shrivel up and drop, with an awful look of agony on his face.

"Again I passed out. Thunder, thunder and lightning roused me. Thank God, the whining sound had stopped. A last dart hit the very spot the others had come through, but fell back. I called again—hopelessly. I heard your answer. Then—blackness again. . . ."

The last word trailed off into nothingness. The white eyelids drooped, but came open again. Bell struggled into a sitting position.

"Don't, don't let them beat us, Arnim. They—never licked us yet. Do you hear

me—old man—it's getting—dark. Where —where are you?"

"Right here, Chris, right here beside you. What is it you want me to do?"

"The *Wanderer*—the papers are there—and a letter—for you. Oh—oh God—the pain," his hand clutched at his heart, his eyes stared unseeingly before him. "Arnim—Britt—get that claim filed. Go! As you love old Earth—leave me and go!"

No Time to Lose!

HE fell back. "Good-bye," he whispered. Then he quivered, and lay still.

"Good-bye, old pal." There was the suspicion of a sob in Penger's voice. Then he turned to the white faced, shaken Haldane. The veteran's face was grim, his eyes like chilled steel. "If you ever make half the man he was. . . ." He choked, left the sentence unfinished, strode across to the still open door, and stood there, staring out. Britt bent to the motionless body, straightened it, threw over it a blanket from the neatly made bunk. A thick silence reigned in the room, broken only by the eternal swish, swish of the rain.

"Britt—come here!" Penger's voice cut startlingly through the quiet. Haldane leaped to the doorway. "Look!" A red, metallic sphere was rising from the jungle, a scant quarter-mile away, and disappearing in the haze. "That's Rutnom's station-ship, or I'm a dog-faced Jovian!"

"Rutnom! That's the Mitco super on Venus, isn't it. What's he doing over here in Venus, Inc. territory?"

"That's what I want to know. I've run up against him before, on Jupiter. A sneaking, dirty fighter. I'm going out there."

"But—but—the Venusians."

"Damn the Venusians. I want to know if he was at the bottom of this deviltry, why the Curtain failed. God help him if what I suspect is true!"

"Then I'm going with you!"

"You stay here!"

"Mr. Penger, I—I would never forgive myself if you got into trouble out there and I wasn't able to help. Please. . . ."

"Oh well, if you will be a fool. Listen—when we're through the Curtain, let me go ahead. Follow about fifty feet behind. Keep in what shelter you can, and protect my rear. For the love of Mike, don't fall asleep, and don't take your finger off the button of your projector. If they get me, try to get back. Understand!"

Haldane nodded.

Once outside the protecting network, he crouched in the shelter of a gnarled root, and marvelled at the dexterity with which the veteran moved through the thicket, darting from cover to cover like a gliding shadow. When his time to proceed came, Britt strove to imitate his leader, but, by comparison with the other's silent passage, he seemed to be crashing recklessly through the tangled underbrush.

Suddenly Arnim halted, bent low, was staring at something through the bleached foliage. Haldane obeyed the covert signal to halt. After long minutes, Penger gestured for him to come up.

"Look at that!" Penger pointed with his projector through the leafy screen. Britt strove to pierce the mist and the rain, could make out nothing in the haze. Then a vagrant breeze cleared away the obscuring fog. He was looking at a clearing, man-made. He could see the hacked stumps of the jungle growth, still raw. In the center of the opening was a tangled mass of wires, coils, broken glass. The ground was blackened and scarred as if a lightning bolt had just struck. To one side, a depression in the mud, rapidly filling with water, showed where the Martian sphere had rested.

"That's where the whining noise came from. I half-thought Chris was delirious—but I see it now. That's why the Curtain failed—why we couldn't hear Bell. Some damn ray—projected like a searchlight—that neutralized the Grendon vibration where it impinged, and also drowned the communication waves. Concentrated, it was powerful enough to open a passage for the darts, but when they diffused it to cover a space big enough for a man to get through it neutralized only partly. That's what killed the savage."

"How could the natives have invented anything like this?" ventured Britt.

"Natives, hell. It's Rutnom, up to his old tricks. Using the savages to cover his own tracks, so that he could put on a bland smile of innocence when the B. P. C. police investigate. He pulled that before, on Jupiter. But why? Why? There's plenty of web here for both of us."

"Mr. Bell said something about filing papers on the *Wanderer*—and a letter."

"Of course. I see it now. That was a *jovium* burn on his arm. And I thought he was raving, was dreaming himself back in the old days. Wait. The *Satona*, the Mitco relief ship, is due here in a week. We have no time to lose. Come on!"

The trader was off at a run, reckless of possible ambush. Britt followed, wondering. Back into the compound. "No time to bury him now. We'll be back," Penger shouted as he sealed shut the door of Bell's tomb. In moments the Earthmen were in the little two-man flier. Penger sprang to the control levers, a roaring blast stirred the mud beneath. Then the *Wanderer* had leaped free, was shooting through the cloud banks at terrific speed. Britt was thrust to the floor by the tremendous force of acceleration. Arnim clung to the control levers, gasping. In the visor screen there was nothing but grey drifting wisps of vapor. Then a sudden glorious burst of light. The sun! The sun the Terrestrials had not seen for half an Earth year.

CHAPTER III

The Chase Through Space

THE *Wanderer* reached the limit of its normal speed, settled down to its steady pace of two hundred Earth miles a second. Released from the pressure of the acceleration, Britt felt a sudden lightness. Already they were far enough from Venus to be losing the effects of her gravity. Penger switched on the coils that normalized this condition within the ship. He studied the banked gauge faces, with their serried rows of quivering needles, leafed rapidly through the chart book conveniently clamped beside the control levers. Then he made certain adjustments, and locked the levers.

"All set. She's on the automatic control now. Nothing to do about navigation until we get within a quarter-million miles of Ganymede. Now let's take a look at what's happening behind." He twirled the wheel of the periscope. On the visor screen, against the blackness of space with its myriad golden twinkling points, the great ball of Venus stood out, a vast sphere of heaving vapors, glowing glorious in the light of the sun. The two men crowded close to the screen, searching for sign of a pursuer.

"The Martian isn't following. Wise boy, his small boat hasn't the speed of the *Wanderer;* we'd walk away from him."

"Here's the letter, sir, that Mr. Bell spoke about."

A fleeting smile crossed Arnim's face. "Oh, you want to know what it's all about, do you. Can't blame you. Hand it over."

Penger read aloud:—

"Arnim: I'm writing this to drop down into your enclosure from the *Wanderer* before I make off for Ganymede. I've got great news for you, but I don't dare talk to you over the tele-talker, for fear the Martians will overhear.

"First, I owe you an apology. For the first time, I think, in the near twenty years we've fought together as Venus, Inc. men I've kept a secret from you. And that's because it wasn't my secret. Last time I was on Earth, Stromstein told me, in strictest confidence, that the *jovium* mines on Jupiter, both ours and Mitco's, were petering out. He didn't think they'd last another two years."

"Hell!" Arnim exclaimed. "No wonder!" Britt looked at him questioningly, but Penger resumed his reading.

"You know what that would mean, of course. So you can imagine how I felt when, on that mapping trip I took, I stumbled on a mountain of the peculiarly greenish rock that is characteristic of the *jovium* deposits on Jupiter. I immediately staked the claim, then worked back through the jungle to where, about twenty miles away, I had left the *Wanderer.* I had to get a badinite flask, you see, to take a sample in,

according to the rules of the B. P. C. Mineral Claims Commission. The stuff was almost pure, I got a nasty burn on my arm when I brushed against it, too.

"On my way back after I got my sample, I ran into Astna, Rutnom's side-kick. He looked queerly at the flask, and the burn on my arm, but I thought fast and told him I was out collecting insects, and the flask was the only thing I could find to put them into. I think I fooled him, but I'm a little worried."

"Yeah, he fooled him!" Penger interrupted himself. "You can't put much over on those Martians."

"Nothing much more. I've got the *Wanderer* all set for a long trip, and as soon as I finish this I take off for Ganymede to file the claim. After that, we can thumb our noses at Rutnom.

"You'll be back on Earth by the time I return. Lucky fellow. Give my regards to the bright lights. And tell the kid I'll get in touch with him as soon as I get back. Venus won't be such a lonely place when they start working the mine.

"So long. Chris."

"Just about what I figured," Penger concluded, "when I saw what Rutnom had been up to. Let's take a look at the location papers."

"Here's the dispatch box, sir. But it's sealed."

"Sealed! Well I'll be damned." Penger looked disconsolately at the square box of argento-platinoid that Britt held out to him. "That's a hell of a note. Suppose we lose that somehow—only Bell knew where that deposit is, and he's gone."

Even captains of interplanetary trading ships are sometimes venial, and Mitco is ever willing to pay well for a glimpse of the reports and other dispatches that shuttle across the skies between the Earth Company's far flung stations and the great Central Headquarters at Denver.

Hence these dispatch boxes have been devised. Once they are sealed, they may not be opened save by the intricate unsealing apparatus that is to be found only at Denver, and, by virtue of the supreme power of the B. P. C. at such control points of that august body as the Mineral Claims Office on Ganymede. Should any attempt be made to get at the contents by force, a chemical is released within that utterly destroys everything enclosed.

"WELL, we'll have to take damned good care that we don't lose it," Arnim continued. "I see the badinite flask is here, with the sample. Good. Now what do you say we get some food into us?"

"I think that's a splendid idea. Mr. Bell certainly stocked the ship up well with food tablets. And the water tanks are all filled. Say, if it wasn't for thinking of him lying back there, this would be a lark. I never expected to be on my way to Jupiter."

"It's no junket, and don't kid yourself. I've never knew Rutnom or any other Mitco man to give up without a scrape. They'll be after us, beyond a doubt. And we'll have our job cut out for us to beat them."

"I'm not worried Mr. Penger," Britt retorted confidently. "I know you'll win out."

"Say, Mr. Penger," the lad broke out after a silence, during which both had busied themselves with disposing of enormous doses of concentrated food. "Why should Rutnom go to such lengths to jump our claim? After all, the governments have a monopoly of *jovium*, there's no question of anybody making any money out of it."

"Plenty reason. If we don't get this claim filed, there won't be any Earthmen worrying about making money after a few years. You heard what Bell wrote, about the mines on Jupiter petering out?"

"Yes sir."

"Well—you know what *jovium* is used for. It's the catalyst that made interplanetary voyaging practical. Oh, we had space ships before the deposits were found on Jupiter. But they had to carry such enormous volumes of fuel to get anywhere that there was neither space nor carrying capacity left for commercially practicable freight nor, what is more important, in the present instance, heavy armament.

"All they were fit for was to carry two or three men on exploration trips. That was the case on Mars as well as on Earth. Their fuel differed somewhat, but the prin-

ciple was the same. Mercury, it is true, has had solar energy motors for ages, but they refuse to divulge the secret. Their civilization is so far advanced of ours that they refuse to have anything to do with Terrestrials or Martians, whom they look down upon as we look down upon the savages of Jupiter and Venus. True, they keep the peace, but that is because they feel it their obligation, placed on them because of their superiority.

"The discovery of *jovium* initiated the commercial exploitation of the far planets. It initiated, also, a race in spatial armament between Mars and Earth, that so far has been a dead heat."

Britt was listening attentively. He had, naturally, heard all this on the school-broadcasts, but listening to dry history, and hearing it told by a man who had seen the history in the making, had helped to make it, were different matters. Besides, he thrilled at the thought, he was even now taking part in a new chapter of the stirring story.

"In spite of Mercury's power, the two planets would have been at each other's throats long before this had either felt certain of speedy victory. But the fact that each had sufficient supplies of *jovium*, and that the inventive powers of both planets were on a par rendered them amenable to the arbitration treaties that Mercury suggested, and with whose enforcement that neutral planet has charged itself.

"You have seen a little of the ruthless nature of the Martians. What do you think would happen to Earth if our *jovium* mines were exhausted, and they still had a plentiful supply, such as Bell credits to this new deposit?"

"They'd drive Earth out of space."

"Yes, and probably attack us at home. So you see how damned important it is for us to get that box and what it contains safely to Ganymede."

"Why were you in such a rush to get off? Once we were away from Venus, Rutnom couldn't give us any more trouble. You said yourself that his flier hasn't nearly the speed of the *Wanderer*."

"His ship hasn't, but the *Satona* is due in a week. It will take us twenty days to make the trip at our best rate. She can do it in ten. With her armament, we wouldn't stand the chance of a snowball on the Sun against her should she catch up with us. And she'll try, my boy, she'll try. We ought to make it with about forty-eight hours to spare, but those Mitco boats don't adhere to schedule very closely, and she might well reach Venus a day ahead of time. If she does, you'll see some fun."

DAY after day the *Wanderer* drove across the immensity of space. Day after day the Terrestrials watched the visor screens, took turns scanning the wide velvety blackness of the heavens through the electro-telescope. Only the glory of the widespread firmament met their weary glance. A week passed by, and still there was no sign of a pursuer. The Earthmen began to breathe more freely. A little more, and they would be beyond reach of the Martians.

Then, on the eighth day, Britt, at the telescope, suddenly exclaimed. "Mr. Penger, what's this? A new star, or. . . ."

Penger sprang to the telescope. Glowing redly in the oblique rays of the sun was a new body, a star where no star should be. Even as he gazed it grew, took form of a tiny half-disk.

"It's the *Satona* all right. Damn. Just as I was beginning to think we'd get away with it. God, look at her come. Here Britt, watch her while I try to get some more speed out of this scow." Haldane clung, fascinated, to the eye-piece while Penger thought desperately of how he might avoid them. With his given energy his speed was sadly limited and the pointer of the speed indicator would not move above the 250 mark on its dials. It would be suicidal to use up energy in getting any more out of the *Wanderer*.

"Gosh, Mr. Penger, she's overhauling us hand over fist. She must be doing five hundred a second if an inch."

"Yes, son. She's Mitco's fastest. I've heard she made six-fifty on her test trip. Well, we'll dodge her as long as we can."

The *Satona* was clearly defined now on the large visor screen, a hemisphere glint-

ing in the oblique rays of the sun. On and on sped the little *Wanderer* without rest, across the void, its occupants thinking and thinking, as if they were seeking to increase the speed of their craft by the very intensity of their wills. And on and on came the pursuer, bulking ever larger on the screen.

"Isn't there anything we can do to keep those papers from them?" Britt grated out once between clenched teeth.

"If the worst comes to worst, I'll smash the box, that will destroy them. But it won't do much good—only delay matters. They'll search Venus till they find Bell's mine, and make damn sure no Earthman has a chance to run across it."

"But we can send out expeditions too."

"Yeah? Earth will never know, till it's too late. You don't think they'll leave us alive to tell the story. No. Our only chance is to get the box through to Ganymede. And I'm damned if—Hold on, I've got a hunch. It might work." Penger's eye had drifted mechanically to the ground glass chart across which a red dot was moving to indicate the *Wanderer's* position in the reaches of interstellar space. Blue disks showed the direction of Earth, the Sun, Venus, Jupiter, the other planets. But an inch ahead a band of tiny blue dots wandered across the map. The Asteroids—small fragments of a blasted planet, following their own orbit around the central Sun.

The veteran changed the field of the visor screen. The following *Satona*, Venus, the Sun swept out of sight. Directly ahead the periscope pointed. Golden in the tremendous distance, Jupiter beckoned. But here—not forty thousand miles ahead, a light fleck, something catching the sunlight. Penger grunted.

"Get bearings on the *Satona*, Britt. How far behind is she?"

"Only a hundred and ten thousand miles. Relative speed about four hundred per second. She'll have us in five minutes."

"Here," the other snapped, "take the controls. Hold her on the mark I've set."

Britt sprang to obey. A question trembled on his lips, but Penger's peremptory tone, the grim set of his jaw, forbade. The *Wanderer* had veered from her course, was driving for the asteroid, revealed now as a blurred ball, ten miles in diameter, revolving at incredible speed. Arnim had snatched up the precious box, was in the nose of the ship, his hand on the handle of the bow porthole. The flier would miss the asteroid by scant miles. They were passing it.

"Turn her, man, turn her left! Quick!" Even as Britt twisted the dial to obey Arnim had the port open, was throwing the box out in the direction of the *Wanderer's* curving flight, was struggling to close the thick glass against the outrush of air. The flier curved in a great semi-circle around the whirling midget planet, headed back toward the *Satona*, now right at hand. Penger was at the telescope.

CHAPTER IV

Caught!

A VOICE sounded in the chamber, a grating, metallic voice. "Halt *Wanderer!*"

Arnim's eye was glued to the telescope eye-piece. To Haldane's wonder he paid not the slightest attention to the challenge. The youth hesitated, then with a flush of anger reddening his face he sprang to the controls, shouting: "Go to hell, *Satona*. Catch us if you can!"

Some wild scheme of escape must have inspired him as he swung lever after lever, sending the little flier darting about in mad, erratic zig-zags. And still no sound came from Penger, save a muttered, "I think it's working!"

Again the voice sounded, coldly contemptuous, from the *Wanderer's* space-radio receiver. "Do not resist, Earthman, it is useless. Rutnom speaking."

Britt's face was livid with fury. He shook his fist at the image that filled the visor screen, the great bulking image of the Martian space-ship a rusty red egg of metal with the intertwining symbols that spelled M. I. T. Co. in the Martian graphs. "Damn you, Rutnom, you murderer," he shouted, in futile defiance. Futile, for sud-

denly the *Wanderer* lurched, her darting rushes checked in midspace. A tremendous force had seized her, was drawing her irresistibly toward her enemy. The Earth ship shook with the thunder of her rocket-tubes, the void about seethed with flaring gases. But the power that could send her careening through space at twice a hundred miles a second was puny agains the pull of the Martian's magnetic fields. Inexorably the little flier was drawn back, back, back, until at last she drifted against the metallic side of the *Satona*, and clung there.

Now at last Penger was torn from the telescope that so queerly absorbed him. "Cut it out, you fool!" he whispered urgently to Britt, "let me handle this." Then, aloud, as the tube-exhausts dwindled and died, "Penger speaking. What do you want of us, Rutnom?"

"Ah, it's Penger then I have to deal with!" There was gloating satisfaction in the metallic tone. "A chance to even up old scores. You know damned well what I want, my dear enemy. The location map of the *jovium* mine Bell found. Deliver that, together with the sample flask, pledge me your word not to report this occurrence and you shall be permitted to return to Venus, unharmed."

Penger's response was cold and very calm. "Sorry, I haven't the chart."

"Don't trifle with me. You would not be making this hurried voyage toward Antka* had your comrade not delivered it to you. Come now, you must realize that you are helpless. And, you of all Earthmen should know, it is dangerous to play with me."

"You know my reputation, I do not lie. I had the chart, it is true. But when I saw that I could not escape you, I threw the dispatch box that contained it from the bow port of my ship. It is beyond your reach."

"Beyond my reach! Why, Penger, you grow senile. I noted and wondered at your erratic maneuver. I noted what you did in our televisor. You threw the box into the gravitational field of the asteroid. Your box lies on it by now. The rock is very small, you planned to rid yourself of me, and return for it. So you've rendered my task easy. We descend. After I have recovered the map, I shall deal further with you."

"Damn! He's outguessed me, Britt!" There was exasperation, despair in Penger's tone. But the staring youngster noted, and wondered at the smile that played around his tight-lipped mouth. A warning gesture stayed the question foreshadowed in the lad's eager eyes.

The *Satona*, with the *Wanderer* tight held against her sphere, had hung motionless in space during this interchange. Now the captured Terrestrials could see the blue flare from the tube exhausts of the Martian space-sphere and feel the vibration of their blast.

Slowly at first, then faster and faster, the coupled ships began to circle the whirling asteroid. Rapidly the speed of the artificial satellite increased till, to an observer far off in space, the course of the coupled fliers must have been a gray blurred circle, whose centre was the planetoid, itself a blur because of the tremendous rate at which it turned.

TO Arnim and Britt, watching their visor screen, the effect of the circling was otherwise. Across the black sky was drawn a dazzling white arc that was the sun. The stars were darting golden lines. But the little planet became distinct as their speed neared that of its rotation. Now they could see it as a jagged mass of bare rock. It was not ball-shape, for this was not a world that had been formed while molten, but a bit torn from some ancient planet in an unimaginable cataclysm. It was a great jagged boulder, roughly oblate, ten earth-miles though at its widest diameter, perhaps six at its narrowest.

Rutnom spiralled lower as the speed increased. The asteroid covered the screen, a bare, rocky shelf split and rent by its birth throes.

"Hello, we're drifting backward!" Britt broke the silence.

Penger laughed shortly. "Looks like it. But it's simply that we haven't quite reached the speed at which the Asteroid is turning."

*The Martian name for Jupiter. Though Rutnom was speaking in English he failed to translate this in his anger.

At last the landing was made. "Whoever is handling that boat is a pilot!" was Arnim's tribute to the jarless halt. Then his face grew suddenly grim. "Some rocket tubes are still on. Quick, lad, how are they inclined?"

"Straight up, sir."

Penger nodded. "Then he hasn't thought of it," he muttered, in tones scarcely audible to Britt. "Now just you keep quiet and follow my lead. We'll lick these birds yet, with a bit of luck." He slid open the beryllium-steel shield that covered the glass sideports.

An air-lock door in the side of the *Satona* had opened. Grotesque in their goggled, billowing space-suits three Martians were coming down a swinging ladder. The weight of the *Wanderer,* still clamped against her shell, was holding the larger craft askew. Not great, this weight, it is true, for the gravity of the miniature world was exceedingly minute, but the Martian captain had evidently thought it not worth while to correct the canting by use of his power-exhausts.

Arnim and Britt watched the ten-foot tall aliens stride across the short stretch of deck to the entrance lock of their own vessel. Around the waist of each a studded belt was clamped, its excrescences showing where the individual gravity coils were inserted. Were it not for these the Martians would have been rising a hundred feet with each step, so small was the asteroid's attraction.

As their captors reached the *Wanderer,* Rutnom's voice sounded again. "Open your air-lock for my men, Earthlings, and admit them."

"And suppose I refuse?"

"Then we shall burn our way through, and it will be the worse for you. I warn you again, Penger, I am in no mood to be trifled with."

The veteran shrugged his shoulders, and swung over the switch that actuated the outer door of the lock. To Britt's astoundment, his left eye closed in an unmistakable wink as he did so. The veteran had some plan, some strategy. Haldane racked his brain in an effort to guess it, but could evolve nothing.

The giant invaders were within the ship. The Terrestrials' hands shot upward as they noted the squat infra-red heat guns clutched ready in their hands. From one of the Martians, apparently the leader, came a guttural sentence in his own language. The others advanced warily. In a trice Penger and Haldane had been seized, searched none too gently, their weapons extracted, and their wrists bound with tough cords.

"Here, not so rough!" Britt had protested as his arms were twisted down behind his back. But his exclamation brought no response save a particularly vicious tightening of his bonds. Arnim was silent, though his eyes were glowing like live coals.

The two prisoners were thrust unceremoniously against the wall of their vessel. The apparent leader remained at guard over them, the wicked snout of his weapon never moving from its threatening posture, while the two others commenced a hurried but thorough search of the cabin. Not a nook or cranny but was invaded, the door of the food closet was ripped from its hinges, the plates of the flooring torn up as a heat gun melted its rivets. Even the metal walls of the vessel were scrutinized inch by inch for evidences of a concealed hiding place. A grunt from one of the Martians signalized his finding of the badinite sample flask.

AT last, apparently satisfied that the location map was not on board, the chief of the Mitco men spoke aloud, in the curious concatenation of consonantal sounds that was the Martian language. From the speaker came a crisp rejoinder, then, in his precise English Rutnom's admonition to the Earthlings.

"You will be brought to this ship, you two. Set your gravity pads at full Earth setting, the attraction of this world is negligible."

Silently the "Venus, Inc." men permitted themselves to be invested in their space suits, after having made the indicated adjustment on the padded attraction plates. Once again, Britt started to protest at the unnecessary harshness with which he was being handled, but he caught a warning look on Penger's face. As the little group crossed

to the *Satona*, the empty sleeves of the Terrestrial's space suits stuck out queerly, straight before them, as if a high wind were blowing. Britt noted this and wondered. There could be no wind, the asteroid was utterly devoid of atmosphere.. Then he forgot the matter, and gave himself up to the black despair that flooded him.

Divested once more of their encumbering garments within the shelter of the Martian space-sphere's hull, Penger and Haldane stood at bay, facing the gigantic figure of Mitco's Venusian representative, and the bulking forms of a dozen others, ranged behind him. The Martians were counterparts of the Earthmen, save for their size and the curious greenish tint of their skins. Even as he bravely met Rutnom's sneering stare, Britt was conscious of a strange lightness, a feeling of power that comported oddly with his situation. Then he realized that the gravity coils of the *Satona* were adjusted to Mars' conditions; that the weight, the internal pressure of every part of his body was one-third what they would be on Earth or Venus.

Rutnom was speaking, a threat in every syllable he uttered. "Penger, I am growing tired of this. Tell me where that deposit lies."

Arnim returned the Martian's glare. "If I knew, I wouldn't tell you, but luckily, I know as much about it as you."

The green tinge of Rutnom's face deepened, his tiny red eyes shot fire. "You lie, Penger. Beware. Well you know that I will not be denied."

The veteran made no reply.

"I said you lie." He raised his gun, ominously. "I'll burn every bit of skin from your body, inch by inch, till you tell me what I want to know."

Penger's gaze was level. "Bell had no time to tell me before he died. And he had already sealed the chart in the dispatch box."

The eyes of the two ancient enemies met and clung. Veins stood out on Rutnom's forehead as he strove to read the Earthman's thought. But his gaze was the first to waver and fall.

"Very well. Since you are so stubborn, and I am in haste, I shall search for the box. It should not be hard to find on this bare terrain. But, mark you, Earth pig, if I fail I'll wring that location from you if I have to smash you into quivering pulp."

In staccato sentences the Martian issued swift orders to his men. Fresh thongs were strapped about the Earthlings' ankles, those about their wrists tightened. All but one of the Martians slid into space suits. Then the great hull emptied, and Britt and Arnim were left alone, with one huge guard watching their prone bodies. One guard, but his eyes never wavered from them, as they lay sprawled on the floor where they had been thrown, and the terrible heat-gun of Mars was ready in his hand.

Britt twisted till he could look out through a port-hole. Outside, on the tumbled, rocky plain, he could see the Martian forces, clustered about their leader. Then they scattered, and Rutnom's plan was quickly evident. Back and forth, back and forth the hunters quartered, each with his own small portion of the asteroids surface to search. Not a square inch of the territory would be left uncovered by this scheme. He groaned aloud. No hope that the precious box would escape scrutiny. What could Penger have been thinking of. Better to have pulled at the lid and thus destroyed the map.

CHAPTER V

Strategy!

PERHAPS he hoped that a patrol ship would rescue them in time. But the whirling asteroid and all its surface was a blur to a space wanderer. They were as effectually concealed as though they were a hundred feet below the surface. He became aware that the trader was talking.

But what was he saying? Despair clutched the lad's heart. Coldly, dispassionately, he was reviling the personal appearance, the ancestry, the habits of the guard. "Britt, did you ever see anything like him? He's got the face of one of those little pigs that have just had a ring pushed through their snouts. And his body—hell,—if I were

shaped like that I would have drowned myself long ago. Look at those eyes. Why, you can see the fear staring out of them. He's a coward, boy, that's why Rutnom left him behind. He's afraid of us, tied up as we are."

Now Haldane understood Penger's peculiar behavior, the strange air of amusement that hovered about him through all this catastrophe, his inexplicable action. His mind had given away. The long years of loneliness, the death of his best friend, the capture by Rutnom, had smashed a brain that long had been famed as the keenest of all "Venus Inc.'s" force. Horrible! If only he had realized it before, had taken charge of things when first the *Satona* had appeared. Perhaps things would have been different.

"That lousy looking Martian must be the misbegotten offspring of the foulest scum of his putrid planet." The quiet voice went on with its taunting. The Martian was standing it well, his watchful expression had not changed, but sooner or later Penger would get under his skin—and then—Britt hoped that the heat gun killed quickly.

"No, Britt, I'm not crazy." The youth was startled by his remark, so pat to his thoughts. "Just wanted to find out if the brute understood English. He doesn't. I've been using some of the worst insults you can apply to a Martian. Even if he had self-control enough not to do anything, his expression would have shown that he understood." Arnim's tone had not changed. "If I had started whispering to you he would have been suspicious. But now he thinks I'm simply cussing out our capture. Now listen."

In the same calm dispassionate tones Penger continued. And as he talked, Britt's despair was forgotten, and hope came to him again.

"You're near enough to the wall to get your feet against it," Arnim concluded. "So I guess the most dangerous part of the job will be yours. You know what to do. I'll follow your lead, but don't take too long to get set. Rutnom may tumble at any moment, and then we'll be through."

He fell silent, and both men closed their eyes, and seemed to sleep. After a bit, Britt moved, restlessly, swung himself so that the soles of his feet were flat against the wall, and he was lying, curled on his side.

Slowly he opened his eyes, the merest slit. The Martian guard was still seated, ten feet away, still watchful. Then, with an explosion of energy, Britt drove his feet hard against the wall. His lithe body rose, catapulted across the ten foot space, driven by muscles attuned to Earth's gravity. Before the startled Martian could realize what was happening, Britt's head struck his soft stomach with terrific force. Over he went with a grunt, as his weapon flew out of his hand, and he instinctively threw his arms wide, clutching for support.

MEANTIME Arnim was whirling, over and over, across the floor. As he heard the crash of the Martian's collapse behind he brought up with a thump against the legs of the control desk. Above he saw the lever that, he knew, controlled the ship. Straining upward, his teeth closed over the handle. The corded muscles of his neck stood out as he wrenched backward with all the strength that was in him. For a moment the lever remained motionless. Then, as he drove his knees into the floor, and jerked backward once again, the lever gave. Searing arcs flared across his face, burned and blinded him, at the sudden cutting off of the current.

Britt, tumbling in unequal combat with the Martian giant, heard the roar of the rocket tubes stop. Then he felt the floor drop away beneath him, felt himself lifted, smashed against something. Blackness enveloped him. But even as he lost consciousness he heard a great shout of triumph from his leader. . . .

A dash of icy water in his face brought Haldane to. His head throbbed with pain, needle pricks stung his arms and legs. He raised a hand to his aching brow. Why, he was free! Then it had worked!

Arnim was bending over him. "All right, lad? Are you all right?" he was asking anxiously.

"Yes. I guess so. Little dizzy, but that's all." He forced himself to a sitting pos-

ture. "But—but you're burned." Across Penger's face were three livid burns. One eye was closed by a white blister, half his scalp was a blackened patch of singed hair.

"A little," Penger grinned. "They had plenty of juice going through that control. Might have been worse. I got off lucky. So did you. Take a look at your late antagonist." Crumpled against the wall was the body of the guard. The queer angle at which his head lolled told the story of a broken neck.

"He was on top, luckily, when the smash came. You both flew through the air, but he hit the wall first, and made a cushion for you. I held on to the lever with my teeth, so I didn't get any of it. I'd like to see Rutnom's face now, down there, stuck on that asteroid with no way to get off." He gestured to the visor screen.

The blackness of interstellar space was mirrored there, the far-off, glowing worlds, the nearer sun. And, tiny in the distance, a whirling, blurred ball that Britt recognized.

"Gosh, Mr. Penger, you've tricked him nicely. I never thought of the fact that the gravity of that little planet would not be sufficient to counteract the centrifugal force set up by its rapid rotation."

"No, and, what is more important, neither did Rutnom. I was sure of that when you told me that he only had his top-rockets on when he landed, though I was almost certain when he talked about the box being down there. All he thought of was the lack of attraction, that's why he kept his tubes pressing the *Satona* down, since otherwise, he figured, an unguarded shove would send her careening off. He forgot that the asteroid itself was pushing away at her with a far stronger power."

"The box," a sudden thought struck Britt, "we've lost that. We'll have to go back to Venus and hunt for Mr. Bell's mine again."

Penger grinned. "Nope. We'll get that back too."

"Why, what do you mean? It must be hundreds of thousands of miles away by now, shooting through space. We can never find it."

"Wrong again, my lad. I know just where she is. And that was the most ticklish part of the whole scheme. Why do you think I kept my eye glued to that telescope while you were swearing at Rutnom?"

The youngster looked at him blankly. The other went on, happily.

"I didn't swing around the asteroid the way I did in order to hide what I was doing from the Martians. In fact, I hoped that he would see. What I did was to throw the dispatch box out at just the moment and speed that would bring it sufficiently within the attraction of the little planet to make it a satellite, to keep it swinging around through space in an orbit of its own. Naturally, I didn't have time to calculate the exact conditions, but I took the chance, and it worked."

"Great! Then all we have to do is to swing back there, spot it in the telescope, and scoop it up."

"Well," the other drawled in reply, "it's not going to be as easy as all that. You see, I burned out the works, pretty much, here on the *Satona*. About the only thing that's still in order is the artificial gravity device. I managed to get that hooked up again, but the rest is gone."

"Then we'll have to get across to the *Wanderer*, and use that."

"Right. Get into your space suit and we'll make a go for it."

THEY worked rapidly. Arnim felt for their flashes; they were intact in the outer pockets. "Switch off your gravity control", be advised Britt, "we'll be able to maneuver better."

They were ready now, Penger led the way; threw open the outer lock. They stepped, curiously light, into outer space. The vacuum suits ballooned immediately.

For a while they floated, while Arnim got his bearings. Directly ahead, not over fifty yards, lay the glittering ball of the *Wanderer*. Below spun a jagged fragment of rock, the tiny asteroid they had just quitted.

Arnim chuckled grimly. He thought of Rutnom and the Martians marooned on that tiny little desolation, helplessly watching the space ships drifting not more than five miles overhead.

Then he pulled out a little propulsion gun and pointing it away from the *Wanderer*, pulled the trigger. He had transformed himself into a very inefficient, clumsy rocket-like projectile. Britt saw and wondered, but did likewise.

But finally Penger flashed his beam over the smooth shining skin of the *Wanderer*. They were home.

His gloved hand found the air lock switch.

* * *

They were standing within the old familiar ship, denuded of their space suits. Britt was grinning happily. Arnim was at the electro-telescope, his eye glued to the instrument, giving swift orders that Britt translated into instant action. The little flier swerved and accelerated; shot off on sudden swift angles. At last Penger motioned. "Hold her there. We're right alongside."

He squirmed into his suit again, dived into the air lock. Britt waited intently. It was only five minutes before he returned, but to the anxious youngster it seemed hours. The precious argento-platenoid box with its even more precious contents was under his arm.

* * *

Ganymede was growing momentarily on their screen. Arnim was sprawling luxuriously in his hammock; head resting on thrown back arms. He had the sleepy smile of contentment of a cat who had licked up all the cream.

Britt, however, was pacing restlessly to and fro, a worried frown on his clear boyish face. He would cast a sidelong glance at his older comrade, open his mouth, and close it abruptly.

"What's on your mind, Britt, out with it," Penger spoke casually, without shifting his position.

The youngster stopped short, surprised.

"Well if you must know, Mr. Penger," he burst out. "I hate to think of those Martians slowly dying on that horrible little world. I know they're murderers and all that, but I just can't help it."

Arnim looked at him not unkindly. "Rest your mind, Britt. As soon as we started for Ganymede I radioed the Mercurian Patrol Ship; she's on her way right now to pick them off."

"Oh."

Arnim stretched himself contentedly. "God, but I'll be glad to get back to old Earth, where it's peaceful and quiet."

THE END

The World Within

By Benson Herbert

(Illustration by Marchioni)

One of the creatures was attempting to dodge a huge spinning mass that was bearing down on it with terrifying velocity.

The World Within

A Sequel to "The World Without"

THE first thing Klington did on arriving back on earth after his terrible climb up the rope ladder, was to fall on the floor unconscious. The disconcerting change of direction of gravity, catching him unawares while passing along the fourth dimension from that tri-dimensional parallel world so near to ours, together with the sudden enormous increase of his weight, proved too much for his weakened condition.

When he came to, he could barely move a muscle. His chest seemed to be crushed, his eyelids heavy, his heart sluggish. He lay quite still for a while, and slowly the symptoms disappeared as the process of adaptation proceeded. With an effort he rolled upon his hands and knees, and then slowly and drunkenly stood up.

He felt a little improved after removing the mask and the remaining trappings. He opened the window and looked out. It was good to breathe fresh air and see a sky that was not forever overshrouded in green mists. Then his thoughts took a sombre turn as he recalled the details of Parling's end.

Musing over his recent incredible adventures,* Klington was about to leave for his own residence when a thought struck him. He hauled in the ladder—a weird experience, watching yards and yards of rope proceeding apparently out of nothingness—, observed the setting of the vernier and screwed it back so that the bar was entirely withdrawn from the other universe, to prevent the ladder and the bar being swept away or damaged. For if the present relative motions of the two worlds continued, the position corresponding with Parling's bungalow would eventually reach the roof of the monster's mouth, with inevitably disastrous results to any object common to both systems.

This task completed, Klington placed his hand on the door to effect an exit. It was locked on the inside. There came a loud knock. He unlocked and opened the door, and saw before him an old friend, Lieutenant Sherry.

"*Hel*-lo! Wherever on earth have you been this past week? We had given you up for lost!"

Sherry stepped in with an amiable gesture. Klington felt too weak to resist and led the way to the room containing the hundred feet of ladder. Sheery eyed the coils of rope with interest. "What have you been doing? Mountaineering?"

"It's a long story. Parling and I have been a pretty lengthy journey. I've had an awful time of it. Poor Parling. . . . In fact, I haven't slept or eaten for the last fifteen hours.

JUST as modern astronomy destroyed the notion that the earth was the center of the universe, so modern physics and speculative relativity is destroying the belief that our universe is the only possible one.

We must now admit that there may be worlds within worlds, and that our universe, the one that our senses perceives, may be only one of an infinite series of universes.

And what of the nature of these other worlds? Admittedly we know nothing and can formulate not even the vaguest notion about them. They may defy our most rash imaginings. But we can draw some analogies.

Suppose we examine a minute piece of dust that falls on our hand, and enlarge it millions of times. We might find that the speck was really a living creature, as perfect as ourselves and possessed of intelligence! Mr. Herbert supposes such a happening in this sequel to his "World Without."—It is packed with thrills and bizarre adventures.

*See "The World Without" by Benson Herbert. February 1931 Wonder Stories.

Klington sat down wearily and began to tell Sheery his narrative.

"—and so, to settle the dispute, Parling invited me here the next morning—."

He broke off suddenly. A mist swam before his eyes.

"I'm frightfully hungry," he said dully.

Sheery was instantly apologetic.

"I'm sorry, old man. Come along to my place now and I'll set you up."

After the meal, Klington felt the need of rest. With great patience, Sheery forbore to ask the numerous questions which teemed in his mind.

"Considering that I've just run a couple of hundred miles, I think I deserve some sleep," laughed Klington. "If you come to Parling's bungalow tomorrow I'll explain everything." He left Sheery staring.

The next day they met at Parling's residence, and Klington continued his tale.

Sheery did not, of course, believe a word of it, even though he had known Klington for a long time. The narrative finished, Sheery sat silent for a time.

"I'll believe you if I see with my own eyes the bar vanishing along the fourth dimension," he said, smiling.

BENSON HERBERT

Klington went to the locker where Parling always used to keep the remarkable Egyptian "find" when not in use, and handed the scroll to Sheery, who examined it closely with great interest.

I myself have interviewed Sheery recently, and he drew, for my edification, the hieroglyphics engraved upon the scroll as nearly as he could recollect.

When Sheery had pored his fill over the symbols, Klington reinserted the arrangement in the vernier clamp, and attempted to set the scale by means of the screw as it was before. He failed, to his considerable surprise. The thing appeared to be jammed. Sheery, inclined to be skeptical, searched for the cause of the jamming, and found none.

"Of course," said Klington, and calmly sat down.

"Of course. I might have known. I believe I told you that the ladder appeared to be moving towards the roof of the mouth of the monster. I could not project the bar because the space was already occupied by a solid—, the creature's head. We shall have to wait some time until the head is left behind so that the bar can enter the space beyond. Or if you like I can try some other universe."

"Well, no. I think I would like to see this curious world for myself. We may as well wait."

"You know, H. G. Wells in his *Time Machine* seems to think that if a solid were projected into a three-dimensional continum into the space already occupied by a rigid body, the result of two solids existing simultaneously at the same place, molecule jarring upon molecule, would be a frightful explosion. To my mind, such a thing would be quite impossible. In fact, I have just now shown it is impossible. The projected solid would strike against the other body, and would stick there, unable to continue further. Indeed, it would never actually enter into the world, unless of course it were forced. But the other body would have to give way first."

"BUT isn't Wells referring to time? Surely that's quite different from this fourth dimension."

"That's where many people get confused, Sheery. Someone tells them that Time is the fourth dimension, and then they learn there may be another spatial dimension called the fourth. If Time is really a dimension in that sense, the only difference between it and the other four (including

the one we've discovered) is that it is at right angles to them all.

"Three-dimensional cosmos are apparently packed in parallel layers along a dimension perpendicular to each of them, and for all I know, the tetradimensional universe this produced might be one of many lying side by side in a fifth, and that again in a sixth, and so on; the last world having an infinite number of degrees of freedom, any one of which might be Time. . . .

"And if you mistake the fourth one for the eightieth, it doesn't matter a rap, for the same reason that we don't differentiate between the ordinary three dimensions, unless we want to draw a graph. . . . Depth to the Eurasian is width to the American."

Sheery idly screwed the vernier back, and to his surprise this time it yielded and the end of the rod vanished.

"*Hel*-lo, it's working at last."

Klington sprang up and attached one rung of the ladder, the end of which was still firmly fastened to the wall, to the flexible sleeve used before, and projected the ladder. Sheery did nothing but ejaculate roundly and stare in astonishment at the numerous rope coils straightening out of themselves and vanishing noiselessly as the end already in the other world fell to the ground.

Klington cautiously moved his hand along the ladder through the fourth dimension, and smiled at Sheery.

"Quite safe. But it's much colder than it was before. Just try it yourself."

"Br-r," said Sheery, and withdrew his hand quickly. "If you are going to drag me into that ice-box, it'll be in a fur coat."

"Well, if you'd rather not go—"

"Oh, I shan't mind a visit, as long as it's kept short. Look here, after lunch, I'll go back to my quarters and get some warm things on, and then we'll see about it. Does that suit you?"

The morning had not yet expired, and they fell to chatting again.

"There's one thing I can't really understand about this dimension business," remarked Sheery. "When you're transferring yourself from one world to another, surely you must pass through all the intermediate worlds as well; and to my way of thinking, you ought to be alternately frozen and shrivelled to ashes as you encounter the cold of outer space or the interior of a sun, say."

"I've often thought of that myself, and I can only think of one way of explaining it."

Klington hunted about for a pencil in his pocket, and sketched a diagram on the edge of a newspaper.

"Seeing it's almost impossible for anyone to conceive of four dimensions, we'll have to knock off one dimension off everything if you want to see it clearly. The analogy may not be tenable, but it's the simplest way of doing it. Imagine this straight line is something existing in the two-dimensional world of the surface of the newspaper, the same as we exist in a three-dimensional world.

"Now pick up one end of the line so that part of it is jutting upwards into the third dimension, at right angles to the previous two, and bend the upper end round so that it now exists in a second two-dimensional plane parallel to its old home. That's a picture of what happens when the bar is projected into another world along the fourth dimension. The 'line' is of course also existing in each of the infinite number of planes between the two I've already mentioned—but only an infinitesimal portion of the line—what is known as a geometric point, inhabits any one of those planes.

"So you see that if the line passed through a plane whose temperature was extreme, the line would not be affected in the least, since only an infinitely thin section of itself would be subject to the adverse conditions."

Sheery playfully pretended to faint, and said, "Give me time to think it over. Ha! You're wrong there, Klington. You should have said a two-dimensional strip instead of a 'line', if you wished to knock off only one dimension from everything."

"That's true, but the argument still holds good."

"You know, this thing explains a fault in a modern theory which has always puzzled me. Some scientists have reason to think that our universe is the closed surface of a four-dimensional sphere, I believe. I

could never understand any reason to suppose that only the surface existed. I wanted to know what was inside it and what surrounded it. Now I know.

"I suppose all these universes are shells, one inside the other, getting bigger and bigger as you go outward, all of them together composing the tetradimensional volume of a limitless sphere. If only we could project the bar along the radius of the sphere several million light-years, it would pass through the center—the center of all the infinitude of worlds, and if it continued for an equal distance on the other side of the center, eventually it would arrive back at our universe-shell, but now at the exactly opposite point to that from which it had come.

"And that point, Klington, is the elusive place to which mathematicians consign anything they are not sure about, the place where parallel lines meet!—the place beyond which nothing in this universe can venture, or it approaches its starting point again!—the point half way along the straight line from Here to Back Again!—the greatest distance man can ever travel!—in other words, the point *at infinity*."

"What on earth is so much geometry doing in the head of a lieutenant?"

"I've just been reading a popular treatise. *Hel*-lo, did you hear that?"

"Sounds like a rat."

Without warning, a chair behind Klington toppled over, and he heard a sudden rap on the back of his own chair. Both sprang up in alarm. Before they could focus their scattered attention properly, the bureau standing against the opposite wall began doing a jig, then slowly it heeled to the one side, a flood of papers and ink poured from it, and it settled upon its front with a joyous crash. It was Sheery who first realized what was happening.

"Look out for the ladder!"

The Return!

SHEERY grasped Klington roughly and jerked him behind the table, away from the shattered bureau. Of an impulse, it seemed, the table took it into its head to rear like a prancing horse and tower above the pair. A flower-vase emptied itself down Klington's neck. The shock of the cold water did little to raise his mind above the general confusion. A moment later and they were struggling beneath the overturned table. A concerted push, and it was off them, and they scrambled to their feet. And what was the cause of this rebellious outburst of the furniture?

"Klington," said Sheery, in a voice breaking with excitement, "the ladder did that! I saw it making wild sweeps through the air. It swept the chair over. It swept the bureau off its legs. It upset the table—"

There, above the tangled wreckage it had created, the ladder, still hanging from the stanchion, swung to and fro like a pendulum with an invisible bob; but no, besides its general swinging rhythm, there was imposed upon it a shorter and sharper swaying; it jerked about and faltered uncertainly, and the rope fastenings at the top creaked with the strain.

Of a sudden a vague fear enfolded Klington. He stood dishevelled, staring, fascinated, his hands groped like those of a sightless person and clutched Sheery's sleeve.

"*Heaven help us!*" he whispered in a hoarse voice, "*there is something coming up the ladder!*"

They watched the terrible perturbations in frozen attitudes. With difficulty Klington wrenched himself from the stupefied contemplation and hurriedly fetched a rifle from the next room. He held it tensely, pointed toward the still swaying ladder, ready to fire. Sheery brandished a chair threateningly.

The movements ceased. All became still. They remained in their strained poses for a while, and then relaxed puzzled. Sheery lowered the chair. Klington removed his finger from the trigger.

A startling apparition made Klington's nerves jump and he almost fired. Sheery again jerked the chair above his head.

A white hand,—a human hand—appeared slowly fumbling along the rope just where it became visible. The watchers looked on with breathless interest as a grotesque form, a form with a metallic contrivance upon its

head, came into view, and at once collapsed in a heap on the floor.

Klington staggered back in amaze. Well he might, for the invader was none other than Parling; Parling, whom Klington with his own eyes had seen fall down the throat of the monster!

Uncomprehending, they picked him up from the debris and carried him to a couch, where his mask was removed.

Parling's condition was alarming. His face, pale as marble, his parched mouth, his lustreless eyes, all told of the ordeals he had passed through. He could not utter a word at first but his lips whispered "drink".

Klington speedily brought some wine and food, of which Parling partook. He sat up stiffly, muttered something about feeling as heavy as lead and said in the tone of one who apologizes for a particularly thoughtless error, "Klington, I've killed the brute!" Apparently overcome with weariness, he immediately flopped down again and slept soundly for ten hours. Not having the bad manners to awaken him, what curiosity gnawed at the hearts of Sheery and Klington!

Nature satisfied, Parling roused himself and began to explain his incredible presence.

CHAPTER II

Parling's Narrative

"I UNDERSTAND that you have recounted to Sheery all that happened as far as your knowledge goes; well, I'll tell you what I experienced after I pitched over into the whirlpool.

"The velocity of my fall was not great enough to be terrifying, and I had plenty of time in which to speculate upon my apparent doom. After the first five or six inches, I quickly became used to the peculiar sensation of weightlessness which always accompanies a prolonged drop, and I calmly twisted myself around and looked about me. I might have spared myself the trouble. There was absolutely nothing visible in any direction. Not even directly above could the faintest glimmer be detected.

"Soon the total darkness began to affect my eyes unpleasantly, and I longed for light. Presently it seemed to me that I had been falling for ever. My curious condition had deep psychological effects; the strangest fancies filled my brain. No landmark or guiding light indicated whither or how fast I was moving, consequently all sense of motion departed.

"I seemed to be a lost soul in space, infinitely removed from any material body, in a field of zero gravitation. There I hovered, unfeeling in a soundless world, and pondered whether I had ever had any real existence. Intense loneliness invaded my mind. I cried aloud in despair.

"Several seconds later, it appeared, I was answered by a faint cry.

"Such was the utter absence of connection, either of touch or sight, between me and my environment, that I did not pause to consider from whom the call came. I was about to answer when I heard another cry, much fainter. A few seconds later there came to my ears a faint whisper, a last remnant of sound.

"Then some small object, probably part of that which the animal had eaten, struck against and rebounded off my foot. The material contact straightway recalled me to my faculties.

"My first thought was the supposition that you, Klingston, had likewise been precipitated down the living shaft, and I had heard you shouting. Then a distinct memory floated before me of seeing you, as I toppled over the edge, being flung back well away from the brink. Again, if you had been falling beside me, your voice would not have appeared to die away in the distance.

"It was some time, I think, before the true explanation occured to me. What I had heard was, of course, merely the echo of my own utterance flung back from the lining of the throat or from the surface of the swiftly flowing saliva which must have surrounded me on every hand.

"A blank period in my consciousness follows, in which nothing whatever occurred

to relieve my brooding mind.

"Then it was that I first began to notice the increasing temperature. It steadily rose until it threatened to become unbearable. Sweating profusely, I was tempted to remove my mask, but with an effort I banished the thought, thanks to which you are now hearing this tale.

"The perpetual darkness had now become extremely irritating, and I shut my eyes in an attempt to relieve the distress. An indefinite period elapsed before I opened them again. Imagine my surprise when I perceived that objects were now faintly discernible! As I descended farther and farther, the strange luminosity increased in brilliance and eventually it was almost as bright as ordinary diffuse daylight. I noted at the same time that the heat had grown still greater, but my delight at the renewed use of my vision was such that I no longer minded the sultry conditions.

"As to the cause of this curious luminescence, I do not know; unless, indeed, the wavelength of light which I was perceiving corresponded to some portion of the infra-red in this other world, which is quite possible. As you know, according to Prevost's 'Theory of Exchanges', bodies of any description whose temperature is above absolute zero are always radiating energy of the particular periodicity which is commonly termed 'heat-rays', not because they are hot in themselves, but because they increase the temperature of any matter upon which they impinge.

"I feel confident that it was this heat-radiation which I was now perceiving; perhaps the narrow limits of the visible spectrum just overlapped the high-temperature radiation of this other world, and that accounts for the complete obscurity of the upper part of the throat."

Sheery became audible restlessly shuffling his chair about, his face showing signs of uncontrollable impatience.

"I say," he pleaded, "not meaning to be rude, but are we going to listen to Exchanges and radiations all night? If I don't soon get to know how you managed to scrape out alive from a thousand-mile drop, I'll start jigging a St. Vitus."

PARLING smiled tolerantly.

"Plenty of time. I was just coming to that.

"As far as I could tell, I did not appear to be dropping much faster than the gleaming walls of saliva around me. I was now near the center of the living tunnel, whereas I was certain that I had begun near one side. The upward aspect still continued to present a circle of gloom, but downward the spectacle was more intriguing. A shining tube like a telescope stretched without apparent end below me, till perspective shrank the periphery to a point. I was reminded of that splendid drawing by the French astronomer, Camille Flammarion, in which he portrays his remarkable conception of a shaft sunk to the center of the earth."

Parling for a while remained silent, seemingly recollecting deeply.

"Well, well," almost barked Klington, "what did you do then?"

"Why, gentlemen, I did the most natural thing in the world! I unfastened the strap which held my rifle, laid it beside me—it floated there since it was falling at the same rate as myself—and went to sleep!

"Given sufficient time, it is my opinion that the human mind can become accustomed to anything. While in the half-stupefied condition that precedes sleep, my brain teemed with all sorts of things. 'Paradise Lost' occurred to me, if I remember rightly. You know—

" 'Nine times, the space that measures day and night—' What is it?

" '—Hurled headlong flaming from th' ethereal sky.

With hideous ruin and combustion down
To bottomless perdition—'

"Then I dreamt I was Alice in Wonderland falling down the rabbit-hole and the gentle bump at the end of it woke me up.

"I looked about for the cause of the disturbance, and found none. Eventually I perceived what had happened. I must have bounced off the swift stream of saliva. I found myself again nearing the side, and again I ricochetted off. There could be only one cause of this. The throat did not continue straight down, but was now curving about. Perhaps the creature was lying

in a prone position and the lower end of the duct was bent sharply round. Perhaps soon it would become horizontal. Even as I reasoned this out, I struck once more.

"The surface of the liquid gave in like a cushion and then straightened out, sending me away from the surface. My rifle was some distance from me. The next time I encountered the flowing walls, therefore, I contrived to give myself a push off in the right direction towards the rifle, and I regained possession of it.

"Bumps were becoming very frequent now; the curvature was so great that it could readily be perceived by looking downwards.

"Soon the contacts became violent, and I sank deep into the liquid each time and was often shot across to the other side.

"Thus I went on, for how long I do not know, until the top side was nearly clear of fluid and it had all gathered on the underside.

"You know, I was going at a really tremendous rate now, bouncing to and fro between the two walls, and it is only due to the fact that the surface tension film was so pliable that I have any bones left at all. Of course, if gravity had been anywhere near as strong as on earth, long ago I would inevitably have shrivelled owing to the air-friction.

"Now, you see, each time I fell against the surface and was precipitated from it again, my downward velocity was being checked in part. I had only to wait, and eventually I would be completely retarded, and would come to rest. And now I noticed that the distances between successive encounters was rapidly shrinking. Soon I came down upon practically the same spot which I had left, indicating the throat was almost horizontal.

"A few more oscillations and I stopped entirely, lying panting on the supporting film. Suddenly I dropped a few feet and found myself lying on a slimy soft substance. The saliva had receded, leaving me high and dry.

"After recovering my breath a little, I stood up as well as I could and surveyed my surroundings. I was standing in a great cylindrical space, like a giant's drain-pipe, at least three miles in diameter, I should say. The air was hot, and the green tinge appeared to be absent. The ground almost burnt my feet in places. Its color was black. I do not know if this corresponds to human throats, but really no close analogy is to be expected. That the interior of the mouth was red was a sheer coincidence.

"I will not detail the horror that came upon me when I fully realized that I was cut off entirely from the slightest hope of escape. Inactivity gave me time to think over the terrors of this situation, so I determined to start walking in one direction or another. There was little from which to choose; I finally set off towards the upper end of the throat with some absurd, vaguely-formed intention of climbing the hundreds of miles of tube before me.

Into the Depths!

"BARELY had I traversed a mile when the ground fell away from under me and I sprawled, my brain spinning, upon the slime. Then its motion seemed to cease and I stood up only to be flung down again as the ground gave a tremendous heave upwards. I attributed this to some nervous tremor, and continued on my lonely way.

"But now a new trial of my endurance was fast approaching. Far in the distance I perceived a mass of saliva pouring down the tube. It was forced by its surface tension into the form of a hemispherical blob, and something was being pushed before it, some hard metallic foreign body. I was directly in its path, and with not a moment to spare I rushed crossways along the ground to get as high up up on the side as possible.

"The foreign body appeared to be dragging heavily along the floor, and to my astonishment, when about half-a-mile from my position, it swung round and tore a great hole in the lining of the throat! I had no time to see anything further, for the swirling liquid again caught up the offending body and bore it swiftly on. I was also caught up when the saliva reached me and was carried a considerable stretch before being cast up on the side of the tube. I

watched the departing liquid with relief, and then curiosity urged me to inspect the damage.

"I made my way back and peered over the jagged edge. An almost colorless liquid that had the slight blueness of sea-water was slowly oozing up out of the wound, which I suppose was really very minute. I expect the fluid was comparable with our blood.

"Another of those tremors which had caused my first fall now put me in greater danger. Combined with the slippery slimy surface it proved too much, and I pitched headlong into the wound which was over half-full of the colorless fluid! That in itself may not appear startling but coupled with the awful thing which was to follow, it was terrible. Instead of coming to rest on the surface of the blood, after a slight halt I shot straight on into the midst of it!

"The values of the surface tension varies greatly of course with different liquids, and I had been unfortunate enough to stumble into a liquid whose surface film was not of the required strength to hold me.

"Down I fell through the fluid, too astonished to make a move for my salvation. With the weight of my trappings I was too heavy to float. At last I made an effort and swam towards the surface. But for some strange reason my head could not pierce the surface. Again I tried, and again failed!

"The despair, the horror that came upon me when I realized in a flash what was wrong! The surface film, although not strong enough to withstand me when I had dropped upon it from a considerable height, yet could not be broken through by my feeble attempts to swim upwards. It was just coherent enough to make an effectual prison for me. Again and again I battered my head against that unyielding surface, and at last down I sank, utterly spent.

"I came gently to rest against something which appeared to be swaying up and down very slowly and silently, and then fatigue claimed me and I lay inert. After a few minutes I recovered and opened my eyes.

"I found myself slowly drifting along the base of an elliptical tube which would be, I think, about as quarter as wide as the throat, and the walls were pulsating every few minutes—heart-beats, I presumed. My weight, owing to the upthrust of the blood, was hardly noticeable. I was being carried along by the flowing blood-stream and my trailing feet occasionally hit against the base and immediately rebounded therefrom.

"But these things occupied a very small amount of my attention, in fact, I might say they did not obtrude into my conscious attention at all. For a fact of great importance forced itself upon my brain through the medium of my eyes,—living creatures were swarming in the blood-stream!

"And such creatures! There were spheres two yards in diameter, colored blue, which puckered their surfaces into innumerable folds and often gathered their substance together and projected a writhing limb outward; there were smaller counterparts of these, colored a deep yellow and slightly transparent. (I could see vague shifting shapes within their outer shells); and then there was every conceivable variety of insect-like life, beings that seemed all limbs, with ten or twenty radiating branches; beings that seemed all mouths, with large complicated masticating apparatus and tiny digestive organs; beings with long sinuous necks and feelers, in short, living things of all descriptions and sizes. And they were all floating or swimming merrily along in the stream.

"They all had one thing in common, and that was the absence of eyes or anything that looked like an optical organ. But the unerring way in which they avoided all obstacles appeared to indicate that they possessed some similar sense; perhaps they could perceive ethereal waves of a different wavelength, or some propagation in the blood itself.

CHAPTER III

"He Who Fights"

"OCCASIONALLY there drifted past great globules of some dense material, probably fat. It was about then that I observed the forward impulses given to

everything by the stream coincided exactly with the expansion and contraction of the walls,—I should have mentioned previously that the flow of blood was not continuous.

"Our course directed us through many vast thoroughfares, great busy places where many ways crossed and the jostling streams of life intermingled in a confusing medley, colorful and always on the move.

"Once I passed a great junction, and dimly through the thin walls above I could perceive another mighty concourse of veins.

"The tremendous complexity of those numerous interlacing highways gave me some slight intimation of the vast being of which they were a part. Need I draw comparison between the denizens of these passageways and the red and white cells and bacteria in our own blood?

"It was just after I had drifted past a junction that I noticed a large circular gap in the opposite wall which led apparently to a blank end. I made my way across to it, with the intention of resting there awhile and observing the passing multitude. I encountered some repulsive-looking specimens on the way across that well-nigh turned me sick, but they all skilfully avoided my clumsy motions as I bounded along the base of the tube.

"I finally arrived at my destination, not without some little difficulty. For the blood-stream flowed fairly rapidly, and entered the orifice. I leaned against the pulsating wall that divided me from the main stream and composed myself to think for awhile over the startling things that had occurred to me and the faint chances of escape from this monstrous labyrinth. I began to puzzle over the obscure reason why the blood which surrounded me completely had not penetrated within my gas-mask, for the seals of the gas-mask were not hermetic.

"I had just attributed this curious fact to the ever-prevalent surface-tension which will not allow a liquid to enter an orifice of less than a certain width, and was thinking that the mechanism of my rifle was probably not even wet for the same reason, when my attention was suddenly distracted by an incident occurring at the mouth of the side-tunnel in which I was musing.

"One of the creatures which I shall call yellow cells, of the smaller variety of sphere, a deep yellow ball four feet in diameter, had just swam across from the other side, and was attempting to dodge a huge spinning mass of fat which was bearing down upon it with terrifying velocity.

"The cell swerved sideways into the entrance of the orifice that I was occupying, and whether by the suction of its movement or otherwise I know not but the huge mass, of a sudden, followed it. Having no desire to be crushed to pulp, I was instantly alert. The hole was barely great enough to allow entrance of the fat, but in the interior it widened considerably so that there was plenty of room for movement for one of my insignificant size—but not so for the yellow cell; a sphere four feet across has no mean volume.

"Thirty-two cubic feet," interposed Sheery.)

"Well, the result of it was that the struggling yellow cell became jammed between the piece of fat and the wall of the tunnel, and there it stuck, elongating more and more with the pressure until it was pressed almost flat, and vainly thrusting out hundreds of writhing pseudopodia in its wild attempts to free itself.

"I found myself in a convenient position, and strange to relate, my sympathies were all with the yellow cell, in fact, even though I could not know of the intelligence which I later discovered, I felt quite anxious for its welfare.

"With a few athletic jerks and twists I wormed my way in as far between the wall and the mass of fat as I could manage, and then, helped by the strenuous efforts of the cell to assume its original spherical form, I braced myself against the side of the tunnel and pushed hard upon the offending body with hands and feet. We were enabled to remove it so far that the cell managed to wriggle out from its awkward position and I carefully retreated and left the conglomeration of fat to its own devices.

"And now comes the queerest part of the business. I say it in all seriousness. The yellow cell slowly swam up to me, stopped, and regarded me with evidently a very in-

telligent appreciation of the aid I had lent.

"You ask how could a yellow sphere possibly display such an emotion. Well, all I can say is, that any emotion is expressed simply by almost trivial and often quite minute motions of the facial muscles or of the limbs, and here we have a creature whose whole surface area of fifty square feet is comprised of what one may term a continuous muscular sheet. So it is really not overwhelmingly surprising that it was able to convey an expression to a being of totally different intellectual form, like myself."

At this point Parling ceased his narrative and stared dubiously at Sheery and Klington for several seconds without saying a word. Such, however, was their absorbed attention that they neither moved nor spoke, but looked only at his face. At last Parling said slowly, "I don't really know whether you will believe what I'm going to tell you next." Parling pondered, then after a time continued.

"I DO not think we have any evidence concerning the intelligence of the individual white and red cells in our own blood. We are prone to think that conscious intelligence can only exist in creatures similar in form to ourselves. Perhaps that is an indication of the littleness of our intellects. Howsobeit, the fact remains that this yellow cell unmistakably displayed a high order of intelligence, in many respects considerably higher than that of the human race.

"The yellow cell approached nearer still, and floated stationary, as if regarding me. I could have touched it by stretching out my hand. There was something uncanny in its close propinquity and its awful eyeless pseudo-vision which it undoubtedly must possess, that made me shudder.

"And then, you know, it flung out a single pseudopod and began to search my features with it. I started back in alarm, fearing treachery, but I was brought up suddenly against the furthermost wall of the tunnel, and perforce had to stop.

"Trembling with fear, my breath coming in nervous gasps, it continued to feel about my head and shoulders, for no purpose that I could see. The slippery limb moved round to the back of my head and finally came to rest as near as possible, as I discovered afterwards, to the point at the top of the spine where the bundle of nerves known as the spinal cord enters the brain. It seemed attracted there as by a magnet. And as soon as it came to rest, I found that—how can I express it?—that my mind and the mind of the yellow cell were in instant complete communion.

"I will not stop to attempt to explain it, but merely state the fact. My memory was straightway filled with everything contained in his memory,—for I feel I can no longer refer to the cell in the neuter gender, and somehow I also perceived that my memory was likewise an open book to him. He was at once aware, I am sure, of what I was and how I had intruded into his world, and of the relations between my world and his. It was clear to me without the medium of speech that he and his kind lived and moved in this spacious world of blood, obeying without question the commands of the chemical hormones present in the solution about them, and moreover that they had a vague inkling of that vaster being which they served.

"Of course this particular one, whose name, by the way, was roughly "he-who-fights-the-microbe-bravely-but-doesn't-wait-till-the-breach-is-sealed-up" (referring, I suppose, to encounters between the cells and bacteria when the skin of the animal was wounded), since it had full access to all my knowledge, would fully realize the existence of the monster whose veins it inhabited.

"Although they blindly followed their duty, as indeed they could not exist were it otherwise, yet I clearly saw they lived a life more or less completely their own at times, but they could not be described as free units. These curious circumstances, so utterly different from our own, are extremely difficult to describe, if not impossible.

"They have no civilization as we know it, as the absence of any kind of written record, the basis of much of modern life, indicates. Yet there was no necessity for such records in their lives; their memories which appeared to be stupendous in the extent of their scope, and never erring, formed

a sufficient store of knowledge, available to any one of them instantly. This system has certainly many advantages over our complex and cumbrous library system. If only we could deliberately control the memory.

"Their minds have this in common with ours, that they are open to curiosity, and this common factor makes a mutual understanding simpler. But concerning emotion, I doubt if they feel in the same way as we do . . . . They, of course, feel very strong impulses at times, especially when an invasion of disease germs occurs and the swift chemical messengers of the blood appraise them of the fact. Then they are urged powerfully towards the scene of the inroad. The tenor of their minds is naturally always colored and limited by the organic necessities of their existence, though at times, as I have said, they break away for awhile. . . .

"Now, while I was reading the mind of "He-who-fights", at the same time he was reading mine, he perceived a fact which I myself had only just realized. I was beginning to feel hungry. Together with this knowledge, he was of course aware of the type of food we eat, which necessarily differs widely from theirs.

"And then I saw that he wished to convey me to some place where a kind of growth occurred, which was the nearest approach in his opinion to the cereals suggested to him by my mind. I at once eagerly assented, and the yellow cell projected a thin pseudopod and hooked it around my rifle-strap, and thus towed me out with considerable velocity into the middle of the blood-stream. We started off on a long journey in the direction of the flow of the stream, and I had time to look about me and correct and supplement by first impressions.

"WE took a turn through a tenuous capillary tube and entered upon one of the vast main veins, and here I saw a typical collection of corpuscles. There was one variety which by far outnumbered all the rest, and these apparently corresponded to ordinary red cells. They were of all sizes, and were shaped like double-concave lenses, thinner in the middle than at the edges in the form of translucent discs. As far as I could tell, they had practically no vitality of their own, but were simply carried along by the intermittent current, doing their task of distributing oxygen from the lungs to all parts of the body.

"The remainder, the scavenger cells of the blood, were all imbued with a marked volition of their own. Rarely did they appear in their normal spherical shape; most of them continually writhed about as they caught up any foreign bodies, such as specks of dust (whose size, however, seemed quite considerable to me) and so on, enfolded them with tortuous manipulations of the skin until the undesirable matter was completely enclosed, and then digestive juices finished off the work.

" 'He-who-fights' paused now and then to absorb such material, but in the main continued straight on without tarrying."

Klington asked a question, and Parling said, "Yes, their oxygen-carrying cells, like ours, are produced in the marrow of the bones, and after a long period (as it appears to them) they die and the cell is broken up; as in our case, they did not multiply, nor even do they split up into two like amoeba.

"Once, when we were passing through a thin capillary vessel, the walls of which were entirely transparent, I distinctly saw above another vessel in which there were a number of such dead cells—probably killed on account of poisonous gases in the lungs, which is a very frequent occurrence in human blood. When they die, the discs string themselves together in regular rows like beads, and the bottom of the vessel was covered with them.

"As you know, human white cells very often pass through the actual walls of the veins or arteries or wander about in the midst of the tissue, if their presence is required there. Well, my companion suddenly wormed its way through one of numerous valve-like openings, and dragged me after him.

"We followed a difficult path between fragments, closely packed, of muscle or perhaps even bone, and once we came within sight of a series of dry substances laid in

straight lines, which reminded me of a trans-oceanic cable and which I suspected were nerves.

" 'He-who-fights' then pierced the wall of a small blood-capillary on the interior of which were growing some very curious toad-stool-like appendages. What with the surface tension and the tight fitting walls, by the way, there was no danger of any blood being lost while we were passing in or out. Considerable force, indeed, had to be exerted to break through the surface film.

"I myself would have found considerable difficulty in going through the surface, but 'He-who-fights', of course, being used to it, performed the feat with astonishing ease, as well he might, for to him it was an every-day occurrence. He again communicated with me *via* the back of my neck, and indicated that I should attempt to eat some of the growth.

"The little reluctance I felt, and the caution against poison which I ought to have possessed, were overcome by the steadily growing pangs of hunger which had been tormenting me for the last few hours. As a matter of fact, such was my desire for food that my interest in the surroundings had recently become almost non-existent. An apathy had settled over me. It was with some avidity, therefore, that I broke a piece off (it was brittle and slightly spongy) and attempted to eat it, with the consoling reflection that in any case I was doomed to perish shortly when the supply of oxygen* had ceased.

"Imagine my horror on discovery that, owing to the exceedingly small aperture presented by my mouth, and the surface tension of the fluid, it was impossible to force the object down my throat!

"My unearthly companion saw the difficulty, and, with a convulsive effort of his strong pseudopodia which almost smashed my neck, succeeded in thrusting the unappetizing substance within my mouth. I was immediately violently sick and expelled it, pulling the mask back over my lips.

"While 'He-who-fights' was busy finding out what had happened, by means of a third telepathic communication, I found a large object firmly pressed against the side of my head. It was none other than that infernal growth, with a bubble of oxygen surrounding it, which the surface-film, which always tends to contract, was holding in contact with the mask. The yellow cell pulled it into the liquid again. That cured me of hunger for a while, but soon it returned in full force, and I had much occasion to regret the absence of any form of provisions."

CHAPTER IV

The Great Battle of the Outermost Circles

"WITHOUT warning we were both flung against the wall with such force as almost to break it, in company with the other surprised denizens of the capillary. I stood up and was summarily cast down again among the growths I had attempted to imbibe. Back and forwards we were thrown unceasingly for the next few minutes, and then all was still save for slight irregular perturbations.

"Didn't I mention before that the transparent fluid which surrounded us had a noticeable blue tinge?

"I saw coming towards us a wave of colorlessness, if I may so express it, occupying the whole width of the capillary. The blue was rapidly vanishing and as soon as the wave overtook any yellow cell (those corresponding to our white cells), he instantly became extremely agitated and darted off like a shot in the direction of the origin of the propagation. A second, and the blueness had disappeared about us.

"The common agitation seemed also to affect my companion and he almost left me there and then without a parting thought. But a sense of gratitude apparently stopped him, and he hastily communicated with me, little nervous tremors running along the pseudopod which connected our thinking centres, and instantly I saw all.

"The monster's skin had been deeply wounded, impossible to say by what, and

*Owing to the fact that the Liquid Air Distillation Company had sent by mistake, along with the rest of the order, some excessively large oxygen cylinders, one of which Parling was wearing, he was able to exist for so long a time without renewal of the oxygen supply.

bacteria were simply pouring in from the outer atmosphere—such was the message of the chemical hormones, the change in the constitution of the bloodfluid whose advent had been announced by the colorless tide.

"Many more facts were conveyed to me in the brief moment of contact of the limb; I understand we should be involved in a desperate fight, aided by antitoxins excreted by various glands. I noted a curious thing about this transference of knowledge; so urgent was the desire of 'He-who-fights' to get away to the scene of the conflict that my conscious self had not time to realize all the information imparted before he had jerked me off after him with his little hooked limb. It seemed to me that the facts were stored in my memory and I sorted them out and arranged them as we flew along the stream in pursuit of the other cells, who were already far away.

"The route was long and complicated, and the speed of the rushing walls confused me. How he knew the way I cannot tell. Quite frequently we left the living cylinder altogether and sped through tissue by way of a short cut. Going was naturally much slower outside the vessels, progress being accomplished by a series of vigorous wriggles, during which there was considerable danger of my mask being torn off. These cuts, though slow, often saved much time when a vein made a detour to feed some important organ.

"When we had traversed a good few miles thus, we found ourselves in the midst of a vast crowd of jostling yellow cells, which had congregated from all parts of the body, and had a common destination. Free movement became increasingly difficult in that multitude as numerous side-veins supplied more units.

"How can I ever describe the marvellous and grotesque vision of milelong rows of yellow soldiers—for the scavengers had turned militarist, pouring one after the other down the pulsating tube? Otherworld similes are hard to seek. Even now I find the conception difficult.

"I have heard it said that the most unusual events protrude clearest in the memory, but I am sure in many cases that is not so. Again I regret that human memory has not a tithe of the efficiency of 'He-who-fights' and his fellow-creatures. Personally I find that a week or so of crowded sight-seeing of the first big capital one visits leaves comparatively few lasting impressions.

"The view of that monstrous sweeping array, speeding like an express through the clear liquid, is quickly fading in my mind, though I distinctly recollect the wonder I felt at its sight. Strangely enough, it is generally trivial happenings which remain longest. I have a clear remembrance, for instance, of swinging outwards, centrifugally, around my spherical friend as we took a sharp turn, and banging right into the side of a neighbouring comrade. I remarked the sense of surprise as I plunged deeply into the elastic skin, and was flung out again as the inward bulge straightened out.

"And never ceasing, the swarming horde was impelled onward, onward to the battle!

"ALTHOUGH the ranks were pressed together in apparent confusion, there was no sign of the disorder experienced in earthly crowds, no shoving, no elbowing out of the way (if such a term can be applied to a jointless creature), no stress of any kind.

"The battalions majestically swept around an upward curve and we came in sight of the no man's land. Here fierce strife waged. In the far distance could be perceived surges of bristling polylimbed bacteria, of a dark colour, which were making repeated massed attacks and were slowly gaining. Suddenly it burst upon me that all the yellow cells in the immediate vicinity had stopped swimming, yet their velocity was greater than before.

"Indeed they soon began to swim backwards in an attempt to slow down the mad rush. It became apparent what was occurring. The unstemmed blood was leaping toward the wound and no doubt causing profuse bleeding. No time must be lost. To be swept out into the atmosphere beyond the skin, where drying blood would remove their only subsistence, the all-pervading

fluid, meant for the cells—death.

"'He-who-fights' released his grip from me and I was left to find my own salvation. Many of the cells stopped themselves by means of friction against the walls, but the current was too much for me. On I rushed to the fighting-line, which was now resolved into a series of individual skirmishes.

"The method adopted by the fighting cells was the same as I had previously seen in use to remove dust particles. A cell attempted to swallow a bacterium by enfolding it in its pliable skin, and then it was a race between the mastications of the invader and the digestive juices of the defender. If a cell was attacked by only one, it generally won, but at present our army was outnumbered.

"My feeble attempts to swim against the current were unavailing. I passed like a bullet through the slaughter area, which was particularly different from anything terrestrial in that it was almost entirely silent. On every hand the swift stream bore with me rent and half-eaten carcasses.

"A blinding dazzling light, as of flame, appeared ahead. It was the deadly opening to the outer world! Terror engulfed me as I bethought myself from the present inclination of the vein that the skin outside the wound was probably vertical. Would the stream cast me outside, dry up, and leave me to fall down the sheer outer surface? There would be no surface tension to cushion me at the end of *that* terrifying drop!

"In the midst of fear and confusion I observed a strange thing. Large thin disc-like plates, much larger than the haemoglobin cells, would without warning materialise out of nothing. Hundreds of them were appearing on all sides. I now know them to compose merely the precipitate known as 'blood-clot' which emerges out of solution whenever blood is exposed to air, and which eventually, if allowed to do so, completely closes up the wound. At the time the phenomenon was rather startling. It is hard to reason out such simple things when the scale of the world is a million times greater than your own.

"So insignificant was my size compared to that of most of the bacteria that I was molested only once during my swift passage, and then I summoned the presence of mind to discharge my rifle. The report echoed queerly from the confines. The bullet must have struck a weak spot for the animal split in two and I flew headlong between the halves. I recollect getting tangled up in some stringy intestines, and hacking my way out with the butt of the rifle. On, on, I was thrust by the remorseless current, through a rain of thickly-falling blood plates, which, however, caused me little inconvenience since their masses were small and they were readily diverted when I hit them.

"A considerable drop of temperature warned me of the end of the journey, and then I saw the flow was at last slowing down.

"Already the fluid was breaking up into drops. The drop containing myself was one of the last to ooze out of the heterogeneous collection of dead and dying bacteria and cells. I emerged into the light between two clot-plates, the fluid quickly evaporated, and I was stranded.

"To my amazement, I remained stationary, standing erect, as if the skin were perfectly horizontal. I can only attribute this to my relative size. I doubt whether gravity had ever much effect on me. It is well known that when the size of an object decreases towards a certain limit, there comes a time when gravity becomes negligible, and surface forces only, such as surface-tension, cohesion, and the like, determine the fate of the object. I was possibly very close to that limiting size. I know for a fact that when I was in close proximity to the skin, 'down" for me was always towards the skin.

"GREAT globes of liquid, drawn into that formation by the tension of their surfaces, towered all around me. The queerest scene I can imagine is that of one vast drop beside me, teeming with creatures held within and swimming about in wild confusion intensified by the enormous lens effect of the convex surface. They were still violently struggling with each other, when

suddenly the bulk of the drop shrank perceptibly, then puff! it was gone like smoke, and the creatures were left floundering.

"Everywhere similar things were happening, and the eye was attracted toward gaps in the skyline where a moment before, drops had reared their massive convexity.

"I surveyed the landscape with helpless despair, in an attempt to discover a means of returning to the interior of the animal. There, at least, I could move about with comparative freedom, and there I had a friend, if he was still alive. I was just about to plunge from the edge of the clot-plate on which I was standing, in an endeavour to worm my way through the drying mass of matter below, when the horizon-line of a sudden altered itself to an alarming extent. Instantaneous mountains and valleys gave the appearance of a rolling ocean. The ground staggered beneath my feet. I felt the plaything of Nature, and not all of my energy could alter my fate in any way.

"The ground surged and swelled before me, and I was sent hurtling over the edge of the plate into a crevice, where I landed unhurt. I could still see the top of the swelling. It rose farther. A crater opened at the crest, and a terrific fountain of living blood mounted into the air! I was stupefied. The wound had opened afresh. The ground was breaking up in every direction. I tried to climb the chasm, but failed. The walls threatened to close in and crush me! The fountain of blood quickly spread out and covered the sky like a factory cloud. And all the time it was slowly falling under the action of gravity or cohesion, which ever it was.

"An awful rumbling rent the air, and a violent hurricane ripped from its foundation the plate on which I had been standing, tilted it up, and sent it careening along, like an enormous hoop. Such a display of force was terrible. What unexpected phenomenon was about to occur? I crouched against the shaking side of the remaining plate, and waited. Perhaps you might think I offered up a prayer for my safety. But no. I was too bewildered.

"The impending canopy thundered down, and for a single moment I lay, an air-bubble surrounding me; then the momentum of the fluid overcame the surface tension, and once more I was engulfed in liquid.

"The terrific impact, while breaking the ground to fragments, yet caused an upsurging due to the splashing or rebounding of the fluid, and I was snatched up by this upheaval and carried half a mile high. Then I am not quite sure what happened. I rather think I was caught up by the main stream of the fountain to a dizzy height, but my memory is confused upon that point. But of this I am certain. As I passed over the peak of the outburst, I was near to the surface of the liquid and I clearly saw the cause of the hurricane. A black shadow appeared in the far distance above, and rapidly swelled to gigantic proportions, a surface of enormous area covered with innumerable wrinkles, that approached still closer till the whole sky was blotted out.

"A moment before I relapsed into unconsciousness there flashed into my mind the great similarity between the apparition and *a handkerchief placed on a cut to stem the blood.*"

CHAPTER V.

The Voyage through the Heart

"THE next thing I recollect is slowly dropping through a vertical vein; at least my feet were pointing along it, so I assumed it was vertical. I have no knowledge how I got there. Evidently the blood had cut a clear passage through the obstructions in the abrasion, and I had been washed hither.

"I later gathered that new hordes of cells were then on their way to the scene of the combat, freshly made for the emergency. The antitoxins had removed many of the invaders, and the great external caparison I had seen above the fountain prevented further loss of blood. All about me was a soundless commotion of hand-to-hand (a better term would be tentacle-to-pseudopod) fights, and I was greatly affected by some of the sights I observed. I had come to regard the cells as rational entities with some kind to myself, owing to my inter-

course with one of their members. One yellow cell I saw was considerably swollen on account of a meal consisting of four of the enemy.

"I found that hunger was again asserting itself, and consequently my whole psychological outlook was changing; I no longer felt extreme wonder at the incredible visions; no longer did my scientific curiosity suffice to sustain interest. Thoughts of Cairo flooded my mind. I longed to return. But I seemed to be doomed.

"With not a little joy I perceived the source of the only possible help grimacing grotesquely in an attempt to attract my attention, at the mouth of a capillary some two hundred yards away. "He-who-fights" had survived the battle, and I hastened towards him. But before I reached him the new overwhelming contingents of cells rushed into view and bore down upon me in an instant.

"One mighty fellow, not having been informed that I was a non-combatant, mistook me for a bacterium owing to my limbs. I turned to flee, but he was upon me! I was pressed up against the wall, and yes, gentlemen, he began to enfold me in his pliable skin! I was completely surrounded by the creature! The digestive juices commenced to operate!

"What use was there to struggle? Despair engulfed me even closer than the monster! I saw a froth of gases bubbling about my helmet, evolved from the action of the acids upon the metal. My uncovered hands began to smart violently. With no coherent thought in my brain, I struggled with unreasoning energy to place my finger on the trigger of the rifle, still attached to me by its strap.

"I fired the rifle! Once! Twice!

"Bits of shattered matter and writhing strings of muscle formed a whirlpool about me, and I found myself, free, floating upside-down and slowly spinning upon my head as a pivot.

"Meanwhile the first contingent of cells had passed, and only a few stragglers were seen. 'He-who-fights' hurried up and hauled me off to a side-tube, still head downwards. I righted myself and was violently sick for ten minutes or so. I think those ten minutes were the worst I spent altogether.

"After it was all over, I realized that 'He-who-fights' had just communicated with me. I sorted the impressions in my memory. The shock I got was terrific. It appears that while I was undergoing the terrors of the Battle of the Outer Cuticle, he had received information from certain other cells that something strange had been seen in a brain cavity many miles above us. And the somewhat blurred appearance of that strange object, transmitted to my mind through numerous yellow cells, was remarkably like a rope-ladder.

"Imagine my excitement! 'He-who-fights' naturally knew how much it meant to me, from his previous knowledge of my memory, and he was very anxious that he should immediately conduct me to the brain cavity. I trembled at the thought of rescue, and floundered, and started off at high speed, but he pulled me back and led me in the other direction. His idea was to enter a vein leading directly to the heart, and there allow ourselves to be swept upwards toward our goal in the mad rush of fluid from the heart. I didn't relish the conception of a passage through the heart myself, but of course gave in to his superior experience.

"After making our way through tissue several times, we came upon a bunch of very fine capillaries, too small to hold me comfortably but through which cells could manage to squirm. Passing these, we stopped for a moment to allow me to rest on the transparent floor.

"I felt very insecure, as a great gulf stretched below the floor for as far as I could see. Then a peculiar sight caught my attention. I stared, puzzled. An illimitable ocean, illuminated brightly, appeared far below, rushing upward at such a rate that in a few seconds everything around was lit up by it. Its unhindered course continued until it was within a mile of our viewpoint. Then it slowed down, stopped, and began to recede with an equally fierce velocity downward. 'He-who-fights' explained that what I took for an ocean was actually the outer surface of the

heart, contracting and expanding, an eternal systole and diastole, the living pump.

"WE watched it come up again, and then went on our way, and eventually entered a main vein going straight for the heart. The fluid flowed swiftly but continuously; of course, there is no pulse in a vein, but only in an artery. The rate of flow rapidly increased, and we were drawn along quite helplessly toward the great valve which controlled the entrance to the heart. The two portals of the valve were each enormous hemispheres with prodigious hinges connecting them to the walls, and ready to swing shut automatically at any instant should the blood-flow cease, in order to prevent a back-current.

"Through the tremendous doorway we sped, helter-skelter, and entered what I assumed to be the right auricle of the heart. A slight pause, then *woosh!* the pulsating walls squeezed us into the ventricle, and without a stop we shot up into the main artery to the brain. I was frequently at a loss to know which way was up. Throughout, I had been firmly gripped by 'He-who-fights', else we would have lost one another.

"Here in the artery progress was jerky, the pauses between the wild soaring rushes being determined by the pulse. We were not really thrown about much. The liquid would suddenly stop, and we would careen on for several yards and slowly come to rest. Then it would start up again. Everything was in a continual whirl.

"For an indeterminable period we were hurtled thus upwards, my friend occasionally kicking us off the walls if we approached too close. From the moment hope of return had reached me, all hunger had fled and I thought only of the brain cavity above us.

"And all this time, you know, we had the infernal trailer—did I mention it?

"Ever since my last scuffle with the yellow cell, the barrel of my rifle had left a long white trail behind it. Wherever the rifle passed, there appeared a gelatinous slimy white substance which was maintained for several minutes and then vanished. I expect it was merely a precipitated colloid.

"The blood-fluid contains numerous compounds in a state of division half-way between the size of visible particles and the extremely finely-divided condition known as a solution. This is termed the colloidal state, and the particles are generally electrically charged; very frequently, when such a substance is heated, the charged particles coalesce and produce a visible precipitate. The cause in this case was the warm barrel of the rifle.

"After a time whose length I have no means of knowing, we entered a branching tube and came upon a network of capillaries. We pierced the wall of one of these and found ourselves at the confines of a vast cavern.

" 'He-who-fights' told me that this was the cavity where the ladder had been seen, but that it was probably a considerable distance away since it had been moving perceptibly along the cavern. I straightway set off in search for it, running as well as I could over the surface pitted with many holes, and in the most likely direction. At a rash speed I bounded along, without once looking behind me.

"For some twenty minutes I hopped about, but there was no sign of a ladder, nor anything else in that monotonous grey expanse, and soon I had perforce to stop from fatigue. And now I regretted my hasty flight. 'He-who-fights' had long been left behind, for his movements away from the blood-fluid were sluggish, and I had not even said farewell. Disappointment had struck me a severe blow, and mechanically I began searching for the yellow cell who had proved so useful to me, but without hope for this place had numerous interlacing chasms and convolutions, and nowhere was there any outstanding landmark.

"Then I overcame my despondency and resolved to cover as much ground as possible, for that would ensure the greatest chance for success. I sprang about for another short period, then despair got me, and I flung myself down near the top of a lit-

(*Concluded on Page* 361)

The 35th Millennium

By
Arthur G. Stangland

(Illustration by Paul)

There was a hissing red flame from Bensar's pocket. He turned his body slightly and swept the scattered group of Kulons.

The 35th Millennium

By the author of
"The Outcast of Space"
"The Ancient Brain"

A DARK, furry figure quietly stole out from the cluster of small, squat buildings and headed for a patch of pines that fringed a little gully which lost itself gradually in the gloom. The only sound was the crystalline crunching of powdery snow, as the small, dark shadow hurried quickly toward the trees.

It was a man. He looked back in the direction of the settlement, fearful of pursuit. All was still, painfully so to his overwrought, straining nerves. He drew the hood of his parka-like fur suit closer about his face to keep out the frigid cold of the night, and then trudged grimly on. He wanted to run really, run wildly with utter abandon, but reason precluded that mad course. His mind's eye depicted the dreary lay between him and safety. He must save his strength.

Member of the proud but decadent race of Futurans, Bensar had just escaped from the terrible Kulon, Gritsoff, that uncouth, bestial giant who preyed upon the border country of the Futurans.

THOSE who predict that the human race will ascend steadily upward to greater and greater heights of civilization, take perhaps an optimistic view of destiny. We know that civilizations and races have risen and after reaching their peak of glory declined to the dust. The decay of the race itself has contributed to this, but often the destroying force has been a cataclysm of nature, such as that which is supposed to have wiped out Atlantis.

The pessimists on the other hand, point out that man will one day reach the peak of his glory and return slowly to the state of savagery from which he rose. Changes in climate, possible return of a glacial age, and other unexpected forces might act to destroy man even if his own folly or decadence does not.

Mr. Stangland has given us a glimpse of man 30,000 years hence. It is a stark, realistic, yet not impossible picture. But it is one that makes exciting reading, and provides a stimulation for endless speculation.

For ten thousand years there had been a steady, insidious decline of the human race. The vast conflicts of embattled continents had resulted in a humanity stifled in mind and body. World chaos had followed the horrible, fiendish methods of scientific warfare.

For twenty-five thousand years there had been a slow but certain development of mankind in a material sense. There had come marvelous inventions and discoveries. Disease had been almost eradicated, atomic power had finally had been created in the laboratory, and then had come the harnessing of the vast centrifugal thrust of the earth. The average man lived in luxurious conditions.

Yet there had been no corresponding development of the human mind. It remained steeped in greed, lust and covetousness. Men still harbored grudges handed down from their predecessors. Commercialism tainted every worthwhile endeavor. Men forgot Nature, her flowers, the beauty of the jeweled night skies, and eventually, romance. Petty jealousies and dislikes were nurtured until at last they were fanned up into a gigantic world holocaust in 24,000 A. D. in which the consuming flame of racial and class hatred flared forth to strike at the roots of established civilization.

It was the death knell of humanity. The world was tremendously depopulated. There was no way to build up another civilization. Men were dispirited. All the resources of the race had been used up in the terribly wasteful and intermittent struggle that lasted over a hundred years. Disease had broken out

again to plague the remnants of the races until they had gathered in little clusters over the earth, inevitably sinking lower and lower.

Little was left them. Scientific discoveries and arts were lost through disuse. And now Man had come to the twilight of his day. The earth seemed to be headed into another glacial age, growing slowly colder with the passing of centuries. Great icebergs floated in all the oceans of the world, and with each succeeding year the ice caps of the polar regions crept down farther into the temperate zones. In the few chilly weeks that were left of spring and summer the ice seemed reluctant to give up the land it had claimed.

ARTHUR G. STANGLAND

Bensar gained the fringe of little pines, all that was left of the vegetation of a fast dying country, to pierce the darkness with blazing eyes. How he hated the semi-savage Kulons! They had migrated from the North to escape the inexorable southward march of the vast glaciers. And here, just to the north, they persisted in settling, only to live off the superior race of Futurans, by stealing some of their vacuum walled houses for protection against the desolate, intense cold, seizing some of their air transports and smaller planes and vital chemicals for producing food.

The Kulons were smaller in number than the Futuran remnant of the ancient race of Americans, but more powerful in build, They had retrogressed farther to the primitive state than the proud Futurans, for the latter at least, still cherished the legends handed down from generation to generation of the glory that was once America's.

Fearing discovery if he flashed the electric tube, Bensar plunged along through the thick pines and up the forested slopes of the opposite hill. He was less than five feet high, an average height for his race, and yet was quite strong and wiry. His face had all the refinements of an ancient civilized race, with small chin, velvety complexion, and intelligent, piercing black eyes.

With determination he mushed through the snow, occasionally looking back to see if he were followed. The greed of the Kulons had played a part in his escape — had really been the means of it. A report had been brought in of the discovery of a large cache of Futuran synthetic concentrates, and when he had been left with only several guards, it had been easy to snatch their para-guns while they drowsed after a gluttonous repast, and leave them paralyzed from the effects of the flash. The others would be back in a day, maybe sooner. He must get over the low mountains to the south where his homeland lay, before they returned.

AT the crest of the hill he stopped for a moment to get his breath before descending to the dreary wastes of the valley below. He stared into the sky at the stars that shone through the continual haze of the upper strata. What was Man's destiny, he wondered? He had heard the philosophical heads of his race arguing dispassionately on the ultimate end of humanity. They had reminisced over the legends of a sunny world full of green vegetation and bright flowers.

Even in his present dangerous position, he stopped to ponder this. Ever since he could remember he had known only a dreary, desolate, dying world of scrub pine trees and moss. Few animals roamed the vast deserts. And it seemed to him that every year turned a bit colder, a bit harder to live through.

Though he had never known the past glory of Futura, a surge of emotion swept him from head to feet, as he realized that

inevitably humanity must bow to the increasing cold and pass into the vastness of Eternity. It was one of the vestiges of a racial pride that was being slowly forgotten as Man slipped backward to moral standard of the primitive cave dweller.

Bensar shook himself from his poignant reverie to descend the long slope of the hill, and set out across the rolling floor of the valley for the distant range of mountains. Here all was open, and icy winds swept down the wide, desolate valley in vicious stinging blasts. He braced himself against the winds which seemed to come down from the absolute cold of interstellar space.

Little icy grains of powdered snow swirled about his face and cut his skin like diamond dust. On and on he trudged, occasionally nourishing his fatigued body with small curbes of concentrates. He approached a mound that bulged out of the gloom like some long forgotten tomb. A sixth sense, more developed than in the 20th millennium Americans, warned him of impending danger. A creeping sensation went up the back of his neck, and he stopped dead in his tracks to await whatever was to come, gripping his para-gun.

The wind whipped around his small but bulky figure, swirling the snow in foggy clouds of white. Above the whine of the wind Bensar thought he heard a new note. He listened intently.

It was an eerie, wailing note of startling clarity that rose in a weird crescendo, and then fell away with the wind. Bensar took a deep breath and gripped his tubular weapon firmly. He felt each individual root of hair on his head tingle. An unnameable thrill of dread for the dark welled up within him, and he turned to face the source of the unearthly note.

Again came the ungodly sound, and after it had died away, there suddenly loomed out of the darkness a huge, massive shape toward the transfixed Futuran. It struck him with terrific force, dropping him to the frozen ground, and then tore at his throat with bared fangs. Bensar could feel its hot, foul breath in his face, and furry shaggy arms brushing against his cheeks. For a moment he instinctively fought back against the horrible creature from the fearful darkness.

With all the strength he could muster and the added power of fear he struck and pushed at the face of the fur skinned monster. Then in a flash he thought of the paralyzing weapon. To his horror it was gone from his hand, knocked out of it when the animal struck him. Real terror seized him now, as he lay with his back on the ground, fighting off an unseen enemy. But suddenly, as the two scuffled about on the earth, Beansar's heart leaped with hope as something stuck into his back painfully.

He arched his back and, defending his face with his left arm, felt around with numbed fingers of the other hand. They came upon the familiar tubular length of the gun and instantly grabbed it. Pressing it against the shaggy, matted breast of the giant, Bensar tripped the tiny, little trigger twice, discharging a double shock of extreme intensity. The heavy, black shape above him stiffened immediately and with a quiver rolled over on the ground.

Considerably shaken and thoroughly frightened, Bensar drew out his electric torch that he had forgotten in the first horrified moments of the beast's uncanny wail, and flashed it on the still form.

His eyes widened at the ugly sight of the half human monster. It was somewhat taller than a man, with a black body completely covered with coarse shaggy fur. The lips were bared in a disgusting snarl, revealing yellow fangs, while the eyes stared up apparently unseeing. There seemed to be rolls of fat or blubber under the skin much like a seal, as if the man-beast had been accustomed to living in arctic waters. Bensar had never seen the like of the brute. Already it seemed to be freezing to death in the helpless state of paralysis. Its eyes slowly closed and the skin shriveled up.

BENSAR shivered suddenly in the cold as he stared at the unknown creature. After a last look he turned abruptly and headed across the valley again, little chills chasing up and down his spine. And yet he felt a thrill of manly pride in conquer-

ing a monster of Nature in combat. But was it a pride of the primitive man awakened within his breast, the kind of pride he abhorred seeing in declining man?

In the dim light of early morning the little Futuran reached the foot of the low lying range, and picked his way up ridges that were swept clean of the powdery snow. The wind bit cruelly at any exposed portion of his face like a shower of tiny lancets, for the November days of 35th Millenium America contained a warning of glacial eons to come. Up and up he ascended above the floor of the broad, snowy valley, picking his way along windy ridges and bleak slopes to keep out of waist deep banks of impeding snow.

He plunged onward over the gray rocks of the mountains worn down by the action of wind and rain throughout countless centuries. Bensar avoided a steep ascent, skirting it to come out into a pass swept clean by a prevailing whipping wind. He trudged along, tired and weary from the difficult way up the mountain side, sometimes pausing to rest long enough to catch his breath.

As he picked his way through the pass, he noticed a peculiar light colored mass protruding from a gravel slope of the side of the eroding pass. It looked like the corner of a huge cube partly broken off on an edge. He stared curiously at it, and then his eye caught sight of a shaft rising out of the slope somewhat higher than the broken edge. It was snapped off some distance from the ground.

Bensar clambered up the loose gravel and rock slope to examine the object closer, his interest as a geologist aroused. It was hoary and green with age, and crumbled when struck with rocks. Suddenly he gasped in surprise. It was concrete, a substance his race had not used for many, many centuries. He struck the jagged face of the broken edge with a heavy piece of granite, watching it crumble. The granite rock sagged to the ground with his hand, while his eyes opened wider at an unmistakable hollow sound. He took up the weapon again, and struck a heavy blow, crumbling some more of the concrete. Again came the distant hollow sound.

His curiosity aroused, Bensar worked away at the concrete industriously until he same upon a bar of reinforcing steel. He cut away around it, and after a particularly strong blow, the concrete facing suddenly gave in. A musty dead current of air came out. Fishing out his torch, he flashed it into the impalpable darkness.

Kneeling there in the wicked arctic wind that blew through the pass like a current of air through a funnel, Bensar gazed awe-stricken into the chamber, like one looking through a hole into time into the long forgotten past. The spot of light dodged lightly around the immense room revealing innumerable mechanical contrivances, ornamental objects of art, huge steel cases with labels on them, pictures, countless statues, and models of machinery.

He stared into the darkness at nothing for a moment as the realization of his tremendous discovery struck him. And then he was pounding swiftly at the hole to enlarge it enough so that he could enter. Imagination fired him, excitement thrilled him, as he worked away at the crumbling cement. Finally he was able to get through the hole even with his fur suit, and it was terribly necessary to keep it on.

He dropped down to the floor about ten feet. The entrance he had made, he found, was several feet from the ceiling, making the room about twelve feet high. He flashed his light around for a moment, the sepulchral, deathlike silence of the room and the atmosphere of an age long dead, filling him with awed reverence. Evidently, someone of the past had left this monumental tomb for posterity, that it might see with its own eyes how those of a different age had lived and died.

He thought of the men who had built the great concrete hollow block, the people who helped to fill the room with objects truly representative of its day, and their feelings when they had sealed the air-tight room. And now he, Bensar, was selected by Fate to find it. His light beam stopped roving and steadied on a big crystal case in the middle of the room. It attracted him.

He picked his way over and stood in wonderment before it.

CHAPTER II.

The Great Discovery

WITHIN it were several long sheets of tissue—thin metallic paper upon which was a mass of ancient inscriptions of primitive English. He recognised a majority of the words and the similarity of word roots to the Futuran language, an off-shoot of the ancient American tongue. With much difficulty he read:

> "To you of a future age who discover this moment to Posterity, Greetings!
>
> "Though we shall never meet, we of the year 5000 A.D. burst the impenetrable bonds of time to send across this countless centuries a message of hope and kinship. You will notice a small platinum cylinder upon a solid pyramid base elsewhere in this vacuum glass case. It is a radium clock that records the passage of the years. The number you find upon the face of the recording dial will indicate the age of this great monument that was dedicated to you of the Future . . . . "

Bensar looked up to notice for the first time the small cylinder. He started at sight of the dial. He rubbed his eyes and looked again. It was still the same. The instrument read 30,082! The light in his hand wobbled for a moment. It was more than he could properly appreciate at the instant. 30,000 years old! His mind reeled at the futile attempt to grasp the significance of the immense number. He read on:

> " . . . . In this room is a representative collection of articles, ornaments, machines, etc., of our generation. You will find all the books and any written material in vacuum cases of glass or chrome-vanadium to protect them from air. Thus we have preserved for your historians valuable material . . . "

He was given instructions on how to light the chamber, a system of illumination that used radium emanations. Uncertainly, he turned his light to a small panel at the right of the glass case. On it were several levers and tumbler switches which were numbered.

According to directions he was to trip No. 1, and watch a dial. As soon as it indicated the number 101, he was to trip the other. Though ignorant of the reasons for the sequence of the procedure, he put out a hand to the lever, and tripped it. Immediately, there was a snap in a thick glass walled cube, and a violet light flashed from a long slender tube.

A faint, high-pitched hum started and rose in frequency. It seemed to be related to the indicating dial, for as the needle crept over toward the limiting figure of 101, the hum passed altogether beyond range of the human ear. Bensar tripped the other switch, and at once a number of Geissler tubes, glowing softly, suddenly came to life, shedding a natural sun-like radiance over the whole room.

In wonderment he stared at the lights. Radium and atomic power, the great discoveries that were lost to posterity in the world wide struggle of long ago. New hope sprang forth in him, as he envisioned a reawakening of the aggressive spirit of the Futurans. Too long had they been indifferent to the advancement of the race, until now some of the northern races were eyeing the possessions of the Futurans in a menacing manner.

Bensar saw now a means to fight off the Kulons who were encroaching upon Futuron territory, occasionally raiding their settlements to get possession of some of the scientific weapons, machines, and synthetic concentrates that were becoming more necessary as the vegetation of the earth disappeared. He saw his race now as an intellectual superior, but inferior in physique, ruling the last vestiges of humanity on the freezing world. With atomic power they could exist till the very last, conserving their resources, and fighting off the marauding tribes from the north.

BENSAR went back to the lighting plant in the glass case. He was tremendously curious at the peculiar machinery packed into so small a space. With a puzzled frown he watched a double tube that glowed brightly with an intense violet. A liquid metal of some kind was in one tube quivering as if greatly agitated. A heavy vapor hovered above it, billowing within the confines of the sphere as if under tremendous pressure, and rushed into the second tube with the swirling motion of a vortex.

And now an amazing thing took place. A cathode ray cut the flowing vapor at right angles, and at that point the bluish gas disappeared in a spot of white intensity. Though matter seemed to disappear absolutely, something took its place. Bensar could not tell what it was, but he sensed a terrific tension in space about the glowing spot, as if pure force abounded there, straining mightily to be released.

A peculiar little coil within the vacuum tube connected with a motor generator unit. That much he could understand. He wondered where he could find a scientific explanation of the machine. Perhaps it was sealed up in one of the cases. A small stencilled plate on the case caught his eye.

"A full explanation of this machine and the photonic theory will be found in case 1A, reel 2."

Bensar found a row of glass cases filled with innumerable reels. Somewhat mystified, he looked at them blankly, wondering what to do. He discovered a plate on top of the case, explaining the operation of the reels. They were actually books printed on a continuous thin ribbon of metal wound on to an empty spindle as they were read. A knob controlled the revolutions of the reel. Bensar found reel No. 2, and eagerly started reading it, though with some difficulty. After wading through several feet of the theory, his eagerness ebbed.

It proved a bit too abstruse for his understanding, and he decided to leave its comprehension to the scientists of Futura. But he did discover something of value. It was a description of a photon-ray weapon, the Rochelle automatic, that burned a hole in anything, and could disintegrate instantaneously organic matter. Several of them were to be found in a vacuum cube of metal, No. 18.

Bensar unscrewed a small button in the tip of the case. Air whistled through the tiny little orifice, and after several minutes he was able to unlock the air-tight hatch, He looked in, through the square hole, and there on the bottom reposed several guns resembling vaguely heavy 20th century automatics—except that there were two parallel barrels instead of one.

The trigger instead of functioning as a trip of the firing pin turned a tiny coil in the magnetic field of the earth. Enough energy was generated to release a still greater electronic or photonic energy of terrible force, a ray of searing intensity. Ammunition consisted of little pellets of metal that were fed out of a magazine into a disintegrating chamber.

Bensar held the heavy instrument of death in his hand to get the feel of it, to familiarize himself with its handling. He went over to the hole in the corner of the room through which he had come, and focussed the gun on a jagged edge of the concrete. For a moment he hesitated in pulling the trigger, wondering just what could happen. Finally, he pulled the lever back. Instantly, there was a strong recoil, and from the ends of the barrels came a bright flash that continued as long as he held the trigger back. Two deep, smooth holes appeared in the concrete, completely annihilating the matter.

The little Futuran gasped in astonishment. He dropped his gaze slowly to rest on the compact, massive little gun. A mental picture was forming in his mind of Gritsoff, the Kulon. He saw the black, uncouth, bearded brute leering at him while behind him were his equally disgusting, and brutal tribesmen. What he, Bensar, wouldn't do to them! He would delight in turning the blasting photon-ray upon them.

On further examination he found larger and more destructive photon-ray weapons. Also, he found peculiar small robots that evidently had been employed extensively by the ancient Americans. His eyes lighted in admiration as he looked over a small

plane popular in the bygone days as a means of personal transportation. A plate stated that the wing-like discs at the sides of the sleek, glossy body vibrated like the wings of a bee, stabilizing and propelling the plane.

In the White Desert

FOR an hour he roamed through the chamber lost in the enchantment of a glorious past, examining everything with deep interest. He marvelled at the preservation of the room which he adjudged to be about a hundred feet square. A thin coat of powdery dust covered everything. But suddenly he remembered he must return immediately to his own people so that they could take away all this.

Bensar shut off the lights, and taking several of the photon guns, pulled himself up to the entrance he had hewn in the corner of the chamber. For a moment he wondered what to do in order to conceal the hole and the protruding edge of the concrete from curious eyes overhead. He looked up the bank of gravel, and there he got his idea. A slide. There was enough material there to cover the exposed portion, plugging up the hole with several boulders. At the top of the high bank he loosened enough rock and debris to cover the short stump of the shaft and the entrance to the ancient vault.

With a last look around to place the location of the pass, Bensar set off to the south again. He was more secure in his sense of safety now with familiar territory over the hills, and the powerful Rochelle automatics in his hands. A new sparkle was in his eyes as he walked on with a light, springy step. He sensed a new emotion, the emotion of the conqueror that had been dying out in the decadent Futurans for thousands of years.

He made his way for hours and hours through a country of stark, bleak nakedness that had eroded down to low, small hills gashed by many gullies filled with eternal snow. These he evaded in tiresome roundabout journeys along the razor-back ridges between the ravines. Little by little he slowed up, his strength ebbing with the exertion of travelling over the terrible arctic air, and the muscles in the calves of his legs began to feel like strands of wire that would never flex enough for the next step. It was the rough, gravelled slopes that wore him out rapidly.

His wiry, toughened little body had taken about all the punishment it could stand. He had pushed himself too fast in his eagerness to get back to Dolor, his own settlement; and had already used up his last bit of food. A vague uneasiness entertained his thoughts as he stood at the top of a hill looking for some sign of familiar country. Was he really lost? But he wouldn't admit that possibility. He was in his right senses, he told himself vehemently. How good it would be to sit down and go to sleep.

Every infinitesimal cell in his body cried out for rest. Too much energy had been dissipated and none stored up. The human battery was run down. It was sure death to stop in this frigid atmosphere, a tiny something warned him. He must keep moving, even if he propelled himself by sheer will power. Bensar stood at the top of a snowy slope on the lee side of the hill. A dull, dreary desolateness faced him wherever he looked. With tired, watery eyes he watched a big, white arctic owl, a species almost extinct, flying swiftly from out of the vastness of the ominous North.

Suddenly it swerved in a high swooping bank, and then dropped like a heavy plummet. Before it reached the ground, the powerful wings lashed out at the air to arrest its fall. Cruel, iron talons were unsheathed, and clamped like a vise on a small animal that scurried frantically over the snow. There was a little shrill shriek of terror, and the huge bird rose to head south rapidly, carrying a little dripping burden that left a crimson trail on the white world below.

Just like death, the weary Bensar thought, a great white winged, silent enemy that swooped down from out of Eternity to take back the life from whence it came. He swayed slightly, and bumped against a rock at his side. For a second he leaned on it, and in that moment his fatigued, conscious

brain was swept by the flood tide of his weariness. He had gone asleep standing up, and his eyes wide open, unseeing. A soft, velvety oblivion seemed to yawn before him, beckoning him downward. A cool, soothing wind enveloped his whole being. Downward, ever downward he floated into a dark abyss.

THE old gray-haired man stood quiet for a moment, looking down at the white face, and then at the young man opposite him.

"You say you found him at the bottom of a snow filled gorge?" he asked at length, deep concern lining his mellowed face.

"Yes, Nudon. Evidently, he was so exhausted when he stood at the top of the bank that he just fell, and rolled all the way down. It's a wonder he wasn't frozen through when I found him. I rubbed him with snow, and put him in the plane to warm up. I came upon him just in time, eh?" the other explained.

"Aye, Dubaran. He'll be all right. I thought at first his feet were hopelessly frozen, but we've saved them. All he needs now is sleep and rest."

Dubaran left the older man with the sleeping Bensar, and went out. The room was severe in simplicity of style, and contained a luxurious, soft bed at the top of a small, pyramidal dais. It was a bedroom in pearl-gray and black with the ever-present vanadium walls and ceiling. Bensar stirred on the bed, and mumbled something. Nudon went to his side, and watched him a moment. There was a flutter of eyelids, and Bensar awoke to stare at the old man.

"Nudon! What happened? I just rested for a moment, and everything went black . . . . "

"There, my boy, you'll be well in awhile. You're just completely tired out. Where have you been? Dubaran says he was flying over country where you were seen last, when he noticed the black streak on the snow bank you left when you rolled down it."

"I was out in the old Ozark country looking for pitch blende," mumbled Bensar, "when some Kulons attacked me from the air, and took me prisoner. But I got away that night from their Communistar, and headed south." Then he went on with suppressed excitement, "Nudon, I have made the greatest discovery of all time. In a pass, free of snow, I found a concrete chamber filled with relics of the ancient Americans of 30,000 years ago!"

The old conservative Nudon with centuries upon centuries of a decaying civilization behind him, smiled.

"Bensar, you haven't rested long enough. I'll go out now so you can sleep some more." And the old gray head, nodding to himself, started to leave.

"Oh, so you don't believe me, eh?" Bensar exclaimed, piqued. "Well, explain away those guns you found on me. I don't know what you did with them. They're not here."

Nudon turned back.

"Guns? Why we never paid much attention to them. I thought they were just something you took with you when you left the Kulons. Here they are," the old Futuran said slowly.

Bensar flared up hotly.

"That's just what's the trouble with the civilized world today! Too indifferent to investigate something strange. All you and the rest of them do is live in memories while you decay—rot! Look at this." And beside himself with anger Bensar snatched up one of the automatics and went to a window. "See that old standard there? Watch it?"

Twin flames spat with a hissing, sibilant note from the Rochelle. A piece of the staff disappeared. Nudon stared incredulous at the hole in the metal. For an instant the standard seemed to be poised in mid-air several inches above another section above it. Then it crashed to the ground. The old man turned to the young Futuran before him. There was a new expression in his face—humility and wonder. Then he spoke.

"Bensar, there is no known instrument like that on earth. Where is this concrete vault? We must get to it before the Kulons find it."

With rapid descriptions of the marvelous machines, instruments and relics he had

found, Bensar aroused in the diffident Nudon the stagnant fire of adventure and conquest. He was awakened to the intense reality of the actual state of decadence of Futura by the word pictures of the wonderful inventions and discoveries of the past that had been forgotten. The time was coming when it would be a fight of civilized man against the primeval Kulons for bare existence.

CHAPTER III.

The Kulons!

THE BIG transport plane flew low over the dead, cold land with a suppressed hiss as radium engines turned her four churning propellers. Four men sat looking down through the floor light at the desolate, passing scenery. There were Nudon, his chin cupped thoughtfully in a hand; Bensar, eagerly searching the terrain below; Dubaran, at the controls; and Ohfar, with unbelief in every line of his face. Ohfar was one of the outstanding Futuran scientific minds, and an associate of Nudon. Only the persuasion of the latter had brought him along.

"We're getting near it now," Bensar commented after a silence in the cabin, "I recognize several of those hills. Better head a bit more northeast, Dubaran."

The colorless country continued to pass by underneath the plane, a frozen, inhospitable, barren world that offered little consolation to man, beast or bird. Snow covered much of it, though many of the low mountains and hills rose up above the surrounding country like chunks of coal on a white tablecloth.

"There it is. See that crater in the pass between those two mountains, Dubaran? Land right there—there's room enough," Bensar cried out.

The big plane banked high, swinging around to take up its momentum. A rich, low geared, high speed whirring supplanted the hissing of the motors, as the helicopter blades eased the heavy ship down into the little amphitheater. Here the astounding monument of the past lay in the cryptic silence of Eternity. The plane settled to the gravelled pass with a crunching of rock, and then rolled forward a bit to level ground.

"Well, here we are," Bensar cried enthusiastically, as he stepped from the cabin. Now he would show the old skeptical graybeards!

After an examination of the slide he had caused, he dug about in the dirt and rock for a while, finally uncovering the broken corner of the concrete room. The boulders were still in place.

Curiously, the three men stood about, watching him remove the obstructions while he explained how he found the amazing chamber. Their eyes opened wide at sight of the hole that Bensar uncovered, revealing nothing but a mysterious blackness. Grasping his electric torch firmly, he let himself down into the dark.

Wonderingly, the three other Futurans knelt at the opening, watching the bobbing light of Bensar's, as he picked his way around big, black massive objects. Suddenly, the room was lit up, dazzling the watchers' eyes, and causing them to gasp in dazed astonishment and then in awe. Bensar stood near a panel.

"Coming in?" he asked triumphantly, sweeping the place with an outstretched arm.

Like men taking a forbidden, timid look into King Midas's storehouse with its yellow gold and jewels, the trio let themselves down to the floor, and advanced slowly, looking in amazement at everything in their path. They were speechless, so overpowering was their wonder. Bensar showed them the reel books and their operation. At last Ohfar found his voice.

"The long forgotten secret of atomic power!" he cried aloud, looking up from a glass case. In avid enthusiasm he read and read the book, absorbed in its technical explanation of photons, static and dynamic molecular structures, and transformation of photon energy.

"Good God, Bensar, with this one Rochelle multiple-barrelled gun we could wipe out the Kulons!" Dubaran exclaimed in a low, awed voice.

"We won't though, Dubaran, unless they drive us to it. We are still civilized, you know, even if they aren't. But now with these wonderful inventions in our possession we can live until the last gasp of this dying world," Bensar said solemnly.

For several blissful, engrossing hours the men of the 35th millennium delved into the richest and finest of the science and culture of 5th millennium America.

"IT will take several days to mave all this. We had better start removing it now," said Ohfar. "And the first thing to do is enlarge that opening and build a platform up to the door. It seems the builders of this vault took no chances by making an entrance that might cave in, so they built it intact."

They set to work on the door and platform, and shortly had things in readiness for removal.

"Bensar, I'm sorry I didn't believe you when you told us your story. We could have had several planes with us to transport this priceless stuff. Dubaran, you can call for more planes. Send them a description of this place, and tell them to get a direction finder on you," Ohfar exclaimed, and immediately the pilot went out to the ship to use its radio telephone.

Upon his return a discussion started as to what should go first.

"I think we ought to take these Rochelle multiplex automatics first," Nudon said, "they are one of the most important weapons here."

"Nudon, I disagree with you. They may be important, but a long time ago my father said to me 'A little knowledge is a dangerous thing'. I say we should take these reel books for the tremendous amount of knowledge they contain. Surely they are more valuable in the end," Ohfar argued.

The other hesitated a moment, thinking. Then—

"Yes, Ohfar, we must take all these cases of books first. With all this learning restored to us we can indeed be masters of the world instead of the craven fools we have been, yielding to the invasions of the beastly Kulons."

One by one the heavy glass cases were carried out to the waiting plane, and stored away. The four worked hard, struggling mightily to get the massive, weighty cubes of thick glass out of the room and over the rough ground to their airplane. At last the ship had taken on all it could lift.

Suddenly, as the Futurans were going to leave the chamber, there came a heavy cruching of rock outside, and six burly black-bearded Kulons came clumping noisily into the room to stand on the platform with drawn para-guns.

"Stand where you are, you fools!" the foremost giant commanded in a loud, surly voice. A cruel and sneering expression set his repulsive, hairy face in hard, brutal lines.

"Kulons!" Bensar cried, totally taken unawares.

"So you thought you'd take all this back to Dolor, eh?" the spokesman for the Kulons sneered, indicating the room at large. "Do you know this is on Kulon territory? Lucky we stumbled on to this place. But you don't get it, because it belongs to us. What are you going to do about it, eh? What can a race of weaklings do about it? Answer me that."

An ugly, contemptuous laugh rumbled from the big Kulon. He turned to the great brute behind him who stood with a smirk on his face.

"Pikdor—their loaded plane out there, land it at our Communistar. Bring it back empty for the rest of this. And you, Liistov, go bring our ship from its hiding place around the mountain. Now is the time to move against the pampered country of Futura. No longer will they hold in their soft hands the bulk of the world's chemical food supply. It'll be the end of Futura when we blast 'em from the earth with those atomic guns they were going to use on us!"

The Futurans stood bewildered, cowed by the giant Kulons and their impressive, massive physiques. All the belligerence was gone from them. The awakened fighter in them had died, and in a forlorn, dejected attitude they stood accepting their fate. All except Bensar. He stood erect like a threatening bantam cock, his hands thrust deep in

his bulging fur pockets, bristling with rage. His usually soft, mild eyes blazed with a dangerous gleam.

"One moment—you. I've got two words to say to you and the rest of your fifthy, mongrel tribe—take that!"

There was a continuous, terrific hissing red flame from Bensar's pocket. The front of his fur garment was violently torn aside, revealing the double barrelled Rochelle automatic. He turned his body slightly as he swept the scattered group of Kulons. To the startled eyes of Nudon and Ohfar it was like the momentary glimpse into a kaleidoscope. One instant the six menacing Kulons were there before them in space on the platform, and the next they had disappeared entirely. A thin gaseous cloud rose to the ceiling and swirled out the opening into the frigid atmosphere to be dissipated immediately.

The Accident

THERE was an awed, horrified silence. The Futurans were too dumbfounded to speak. Bensar's anger had faded, and he sickened at the realization of his act. But he stiffened. He had saved Futura from the domination of the primitive Kulons.

"And that's the end of them," said Dubaran making an awkward attempt to be jocular.

Bensar bent down to examine his torn fur minutely.

"No, Dubaran, only the beginning of the end. They've got more of this to come," he said grimly. But little did he realize the arduous way to complete freedom from the Kulon menace.

Slowly the four started out of a thoughtful silence, conscious of a rising wail outside. A draft swept down into the chamber and stirred the fine dust out the past centuries. Bensar looked up at the opening. It was white.

"Look! A blizzard coming. For the sake of the gods, let's get out of here right away, or we'll be frozen to death!" he cried in alarm.

Outside the wind had risen to a mad tempo, sweeping through the pass in an inhuman fury. Fine, dry particles of diamond sharp snow crystals filled the atmosphere, cutting at exposed portions of the body viciously.

"It's an arctic storm, and on the way to being a terror for anything out in it. May Mother Nature have pity on us. Do you suppose the plane will stand the high wind, Dubaran?" Ohfar yelled at the pilot.

"I don't know. All we can do is try, I guess," he yelled back in Ohfar's ear to make himself heard above the rising howl of the elements.

The four Futurans were just able to fight their way to the cabin of the plane. Grave faces showed the strain and anxiety they all felt at thought of navigating the upper air lanes. Bensar looked out through the windows at the blizard. The snow fairly streamed by, seemingly streaking the landscape with white thin lines. The hissing of the radium motors started up, lending hope to the fearful quartet.

"Wonder where the other planes are?" Nudon observed at random. No one answered. All were listening to the heliocopter blades as they whirred with a rich, deep sound that rose as they accelerated, cutting the air stream of the storm at right angles. The propellers set in the wings and nose almost shrieked trying to equal the force of the wind. The plane shifted backward a few feet and gave the impression of being lifted into the wind at any moment, to be a prey to the fury of an arctic blizzard.

"All right, here goes!" Dubaran shouted.

There was a burst of power from both the forward props and the helicopter blades, as the plane rose into the air stream with a lurch. But it was a very unsteady ascent. The forward engines could not make headway against the terrific wind, and fearfully the apprehensive Futurans watched the ground slide by only a few dozen feet under the plane. The lifting blades were straining mightily to take the heavy ship with its cargo of freight and passengers into the comparative safety of the air. But it was a terrible effort.

"Look, we're approaching the rim of this crater!" Ohfar cried out pointing toward

a rocky ledge approaching the tail of the ship rapidly. "Good Lord, do something, Dubaran!"

The pilot took a hasty glance back at the menacing rim. He looked again as if measuring with his eye. Closer came the ledge all the while. Then Dubaran acted, rolling the ship over in a bank and giving the engines all the power possible. Ohfar and Nudon grasped wildly at anything in reach, as the floor of the cabin canted sharply. The wind barely lifted the plane enough for the landing gear to clear the rock as the ship veered about sharply to heel over and run with the wind. Suddenly there was a bump as the tail grazed the rim, and then all was clear. The ship rose slowly, virtually floating with the high velocity wind over the earth at a great pace.

"Good work, Dubaran!" Bensar cried, breaking the strain of the tense moments.

But suddenly upon them burst a shrill whine from the after compartment. Something slammed with a bang, and the tail of the ship seemed to rise slightly.

"Look, what's that!" Nudon cried out, pointing downward through the floor glass.

A DARK, bulky cube of metal was hurtling earthward rapidly. Bensar jumped for the door to the compartment and jerked it almost from its hinges in his eagerness to open it. Snow and wind whirled in with an icy touch through an exterior door of the rear compartment that had somehow wrenched open, probably when the ship bumped the rim of the crater. Bensar was just in time to save another case of the precious books that was sliding toward the opening.

"I don't know what was in that, but we can't stop for it now", the little Futuran lamented, as he returned to the main cabin.

"A lucky thing nothing else went," Ohfar observed. "What a terrible storm! Wonder if we'll ever find the monument again."

"I don't know," Bensar said gloomily. "It looked to me as though that crater was always filled with snow, and was clean now just because of the preceding summer. With the coming of winter at hand, it will probably fill up and we'll never find it again. Too bad. These winter blizzards seem to be getting worse all the time."

It was a white world outside, a world covered with a soft, downy blanket, but a world carrying extinction for any living thing caught in its clutches. The four Futurans gazed down at the limitless expanse that spread out below them. It was beginning to be difficult to tell which was land and which was the snow-filled sky, so heavily was the snow falling.

At last came a familiar landmark into view, and before long the plane was over Dolor. It was a dreary, dead looking community that lay with its back to the raging blizzard regardless of its fury. The pyramidal buildings were slowly being covered up by the drifting waste of hard whiteness.

"All right, Ronlan, I'm coming down in a minute. Take the cover off and shove her up," Dubaran spoke into a microphone.

The plane wheeled into the teeth of the storm and with great difficulty remained stationary in the high wind. Directly below through the floor light could be seen a big cylinder that protruded above the snow line. It was almost twice as wide in diameter as the length or breadth of the plane. The helicopter blades of the ship emitted a deep geared whirring, as it started to descend to the top of the cylinder. But oddly enough, the top started to sink in as the plane approached it, and continued to do so, while the ship still resting on the lifting power of her helicopter props, sank below the top of the circular walls.

Then there was a light bump as the ship landed solidly on the descending platform. Fifty feet into the earth the plane with its human cargo and priceless freight sank to a hangar in a veritable underground city. Here the Futurans lived during the frigid months of winter when heavy arctic blizzards roared down from the Pole.

CHAPTER IV.

Serious News

"WELL, here we are!" Dubaran laughed happily, the strain of the flight over,

and his good humor bubbling forth unsuppressed.

"Yes, and thank the Lord over all," Ohfar managed to say as he stepped out.

The plane was rolled off the platform into a hanger. The top started back up to cover the broad opening.

"Hello, Roulan. Did the other planes get back all right?"

"They never left here, Dubaran. Just after you called us we discovered this blizzard coming up, so we called you back but you didn't answer. Thought something had happened sure. Everyone's been pretty concerned wondering about you. We were just going to send a motor sled searching party."

"Well, let's get this stuff up to your laboratories, Nudon," Bensar interrupted. "We'll have a lot of indexing and examining to do."

The precious freight of the plane was transferred along underground and into the depths of one of the metal buildings.

These buildings were constructed to meet the demands of a snow country, being made in telescoped sections so that they could rise or descend above the drifting snow. Here in the depths of the earth where they could move in warmth and comfort, the scientists and explorers opened the many metal and glass cubes.

Bensar went about examining them, glancing into all the metal ones with a puzzled frown on his face. Then more hurriedly he examined the glass cubes too. He stopped with a vexed expression and faced the others who had watched him questioningly.

"Confound it! They would have to be in that one case," he burst out, sitting down on the edge of one of the bulky boxes.

"What's wrong, Bensar?" asked Dubaran, sipping a hot cocktail.

"That metal case we lost out the after compartment door. It contained ten Rochelle automatics!"

"Guns! I thought we agreed to leave all that kind of stuff back there?" Ohfar asked archly.

"Yes, I know. But I concluded that it would be just as wise to mix some dangerous, cold metal along with some dangerous knowledge in the load, so I put in that case of tube guns," Bensar explained, stroking his chin thoughtfully. "If they should be found by—" he broke off, looking meaningly at the other three.

"No chance in this storm, Bensar," Dubaran assured him. "Doubt if it could be seen."

"Well, anyway, I've got several on me and we can study their mechanism to build more."

For the next week or more the men examined thoroughly the contents of the cases. They delved into the history of the earth and its greatest civilization. There were descriptions of marvelous inventions constructable only from rare metals obtainable in remote corners of the world; plans for building machinery to manufacture articles and implements for a vast civilization far beyond that of Futura's; long descriptions of luxurious playgrounds for the wealthy; and most marvelous of all was the radio stereoscope in natural colors.

"Why the thing is simple to make!" Ohfar cried after a day of studying the plans for its construction, "it's not much different from the principle of radio telephony. I think I can build one if I can get the required materials."

"A peculiar thing that you scientists of our nation, the greatest in the world today, have not thought of it before," Bensar said ironically. He got up to pace back and forth before Nudon and Ohfar. "Something's wrong with our race of today. I don't know what it is exactly. But do you men realize there has not been a single outstanding discovery or invention in the last several thousand years? I never realized before until I started to read these ancient histories that we are so decadent. Why our race is dying!

And the little Futuran, exceedingly agitated, stood before a window looking out at the swirling snow from high up in one of the pyramidal buildings. It was Nudon's library and study room. There was a strained silence for a long moment. Ohfar coughed.

"Er—Bensar, how you talk and rave. Do you realize you are criticising two of the foremost Futuran scientific minds? And

you know—you are only an immature young man," the rigid old scientist said, condescendingly.

"Scientific minds are supposed to be fair and open to all argument, aren't they?" Bensar countered.

"Yes."

"Then do you realize," Bensar went on relentlessly. "That all we have here of science and civilization, we owe to the past. We have not built a single new thing. We have not replaced a single thing that has worn out. We are spending our capital, reducing it year by year, until the time will come when we will have empty cities and rusted, useless machines. And further what's been happening to Futura in the last thousand years that she should break up into numerous small communities with no executive? Isn't that a sure sign she is declining? There's been more squabbling since then than ever. What we need is system, and a centralized government with a strong man to rule it, dominate it, that's what. You and your kind will never get any—"

THERE came a light knock at the door.

"Enter," said Nudon.

A young woman, efficient, neat and attractive came in.

"Sorry to interrupt you, sir, but von Notok asked me to remind you he has received more scathing criticism of the officials of Dolor for keeping back the results of the investigations of the Ozark Monument. The communications came from the city of Raan this time."

"All right. I'll look them over later. You may go." The secretary disappeared. Nudon made a wry face. "Confound me. First Lura condemns us, and now Raan. Impatient devils!"

"I know," Ohfar commented. "They think we hold some magic power that we got from that ancient chamber. Now, they're getting anxious about it and think we aren't going to let them in on it."

Bensar stood looking at the two older men, a grim smile playing about his lips.

"Having a few troubles over it already, eh?" he inquired.

"Oh, they're naturally just a little curious. It's nothing," Nudon said, trying to be nonchalant about the matter.

"Curious? Avaricious, if I know them at all!" Bensar cried. "Some civilization—this. Quarreling among yourselves when you should be working together against these damned, primitive Kulons! Some of these days they're going to fool the whole bunch of you. You know, they're smarter than you think they are. And then—too late, just because of a silly squabble here for greedy desires. It makes me boil inside, the way things are done in Futura."

"What's got into you lately, young sir?" Nudon asked sternly. "You were always a patient worker for the Futuran geologists. And now you—why you're like the ancient radicals!"

"Yes, a radical. That just fits me right, Nudon. In the past history of progressive civilization it has always been the radicals who were dissatisfied with things. It was they who made the world go ahead, who continually clamored for a change for the better. That's just what Futura needs now. Someone to stir the people out of their selfish lethargy," Bensar cried vehemently.

"What an outburst!" exclaimed Ohfar.

"Bensar, you can't buck tradition. It has been the custom for centuries to dwell as separate cities unfettered by a meddling government. Things have gone along quite well, I believe," Nudon argued, "and I believe they'll continue so."

"All right, I know I'm young and that you won't listen to me. But, by the little gods, let's get something done with the manufacture of these Rochelle automatics right away." And Bensar stepped to the door. "I'm going down and study some more ancient history. 'A little knowledge is a dangerous thing,' Ohfar!"

Nudon and Ohfar looked at each other wonderingly as the young geologist went out.

"Well, Ohfar, maybe it is the truth that hurts. You know—we haven't done much but teach, after all. There's been little research work, at that." Nudon smiled wryly, thoughtfully. Then he said somewhat sheepishly, "And to think it had to be a stripling, a—a 'radical' to open our eyes.

We had better get started on those automatics and experiment a bit with that radio-television, as they called it."

The First Invasion

THE NEXT day found the world in only one color—a dazzling white that was accentuated by a bright sun tinged somehow with red. Many feet of snow had sifted down from the slate skies and piled up about the city of Dolor. As many an ancient city before her had done, Dolor slowly dug herself out from under the flaky mantle. Giant plows swept the public ways of the city, though they were not used as much as the underground systems.

Still the Futurans knew the value of fresh air from the surface of the earth, and the vitalizing power of the rays of the sun. Again the crippled inter-city commerce was resumed by the passenger flyers, coming up from out of the earth through the cylinders to take off into the air like giant, booming beetles. For awhile the air lanes were filled with busy ships moving freight and passengers held up for the week of the great blizzard.

Though sometimes at odds over minor questions of mutual relations, the Futuran cities were dependent upon each other for supplies of synthetic foodstuff, fuel and ores, and carried on an extensive mutual trade. Dolor was the largest of the three principal cities of Futura, though there were numerous other smaller communities. The two larger cities of Raan and Lura were jealous of Dolor for the control she exercised over the pitchblende* deposits to the north and west of her territory. Then, too, because of her greater size she was often the butt of Raan and Luran criticism. As a result, with no higher authority to appeal to, there was much bickering and petty rivalry.

After an intensive study of the Rochelle automatic and its mechanism, Bensar and Ohfar decided that they could get the necessary materials no other place but at Raan, for she alone had quartz and nickel in commercial quantities.

*Pitchblende is the ore from which radium is extracted.

"How many of these weapons should we make at first, Bensar?" the old scientist asked doubtfully.

"We better not make very many at first. Let's see how they turn out on the initial attempt."

Ohfar sat down suddenly.

"What's the matter?" Bensar asked in surprise.

"Oh—I'm afraid we're going to have trouble getting these materials from Raan. They're so confoundedly suspicious of everything we do up here. They're afraid we'll get ahead of them a little," Ohfar prophesied pessimistically, tapping the floor with a foot.

"But they don't have to know what it's for, do they?" Bensar inquired vigorously.

"That's just it. They require a reason for every requisition now since that trouble we had over the amount of pitchblende they wanted last year."

"Well then let's make a clean breast of it all, and take them in on this venture," said Bensar, casting about for a way to end the quibbling.

"It would never do. Loran, the great physicist of Raan, would want to grab up the whole thing for his own city and that would bring Lura into the squabble, too, with Duhr putting his iron in the fire," Ohfar opined, shaking his head, puzzled.

"Ye Gods—" he'd seen that in the reel books—"what a mess!" the exasperated Bensar growled. "You don't seem to be lamenting the fact that you hold the power in your hands just now, Ohfar. I think the whole affair comes down to a mutual jealousy among the three of you."

He strode over to a table and drew out a decanter of synthetic liquor. Pouring a stiff glass, he quaffed it at one swallow and then stood in an angry mood, thinking. Then—

"I can tell you this though, you aren't going to get much done until you three old mossbacks agree. And in the meantime the damned Kulons are probably getting ready to come down upon us from the north. Can't you do this: give a fake reason for the materials?"

"I might do that. But Loran will influ-

ence the operators not to let me have anything. He's still hot under his tunic over my refusal to let him have any of the books we discovered. He was over the other day just as soon as the snow stopped falling. Had quite a session with him." Ohfar smiled reminiscently at memory of the interview.

"Yes, and I can see by your face that you're gloating over the fact that you still retain the possession of the library," Bensar exclaimed disgustedly. "Guess I'll have to order the stuff myself, though I don't know where I'll get the credit!"

AT this moment the gray haired Nudon entered the apartment. His face was grave.

"Hello? What's wrong, Nudon?" Ohfar asked.

"Lakara was pillaged this morning by a band of Kulons on motor sleds. Food stuffs principally were taken, although several planes were flown off. But the people were terrified by a new kind of gun or ray weapon that the Kulons used. Some of the braver men disregarded the filthy beasts and their command and rushed them. Red flames darted from the peculiar looking arms and the poor men just vanished into a thin tenuous vapor!" Nudon looked steadily at the other two reading in their eyes the answer he had not cared to voice.

"Then—they did find it," Bensar said, slowly, quietly, the stunning significance of the Lakara report sinking deep into his brain. The Kulons—with ten Rochelle automatics in their possession! Were they intelligent enough to make more of them? The safety of the whole Futuran race was menaced now for it seemed likely that an invasion from the North was but a short time away.

Ohfar was visibly shaken by this alarming intelligence. But he sat looking at Nudon for a full minute somewhat incredulous.

"Impossible!" he exploded, "they couldn't have found that case in all that deep snow. There was no one around for miles that we could see. And by the time anyone could come on the scene it would be covered by snow. No, I believe they've found the vault again."

"I don't think so, Ohfar. That was the only case of Rochelle hand automatics in the chamber. It must be true that they found it in the snow somehow." Bensar returned hopelessly. "Now we've just got to make some more of them to combat those bloodthirsty devils. We must go back to look for that vault again. We didn't get everything you know."

Ohfar got up to look out at the white world through one of the long rectangular windows. He turned to look at Bensar as if he had suddenly decided.

"I'll give you the credit for the materials for those automatics. But you must stay here to help us with their construction. Dubaran can go out to look for that chamber. He knows the way. But I doubt if it can be found now after such a heavy snow storm," he said slowly, considerately. "Now listen closely: you go to Raan and see . . . ."

CHAPTER V.

The Strange Passenger

BENSAR stepped from the Raan passenger plane and made his way from the underground station. He moved into a public way that led to the big industrial plants where various metals were used in the manufacture of machinery. As he walked along in the throng quite conspicuous, in the Doloran uniform, he felt as if hostile eyes followed his every move. At a broad intersecting tunnel he stopped and looked about for some directions. Big sun lamps shed a warm radiance over all from niches cut in the solid rock. In vain he looked for signs.

"Can you tell me where I can find the Metals Company?" he asked a passer-by at length. The man gazed sneering at Bensar's uniform.

"If you'll follow this avenue to your left you'll come to it," he answered ungraciously and went out.

"Typical Raan courtesy," Bensar thought grimly.

He went on and came duly upon the im-

posing portals of the company. He was in the unground floors of the Metals Building. It was a spacious room he found himself in, simple of design to the point of severity. A young, business-like man came up to him.

"Good day to you, sir. What is your business?" he asked tersely, unsmiling.

"Why, I've come to make a requisition for our geologists in Dolor," Bensar returned curtly.

"I see. What's the nature of the requisition?"

"We need some more nickel and copper for our chemical analyses. I've got the list of materials here." Bensar handed the curt young man a sheet of thin metal papyrus. The latter scanned the list with knit brows. His attitude was altogether unfriendly from his first sight of Bensar.

"What's the reason for so much quartz, eh?" he cocked his head inquisitively.

"We've developed a new system of handling pitchblende, and it takes quantities of quartz." Bensar smarted under the unnecessary quizzing, but held his tongue.

"I see. Well, I guess it's all right. How soon do you want it?"

"Right now. I'm going back with the consignment on the next Dolor plane. Here's the price." Bensar felt that the sight of the currency was all that prevented the young official from dropping some sarcastic remarks about Dolor.

Bensar waited as the latter went away to put in the order. He was relieved to be over the worst part of the ordeal. It had not been as bad as he had expected or as Ohfar had thought. After a short interval the heavy steel cases of metals and quartz were brought from a warehouse and put on a small, massive truck.

"What ship you leaving on?" the young man asked Bensar.

"3LO," the latter returned.

"Take these cases to No. 3LO, Wolfgar," the driver was instructed.

The Futuran spent no further time in Raan, but made directly for the airplane hangar and station. He went aboard, wishing he were leaving directly. However, there was still more than a half hour to go. He settled himself in his soft pneumatic seat and prepared to drowse. But not for very long. A man and his wife came in, making a fuss over the way they had been treated by Raan officials. How glad they were to be going back to a real city, the only city—Dolor.

Just before the scheduled departure a young man of ordinary appearance entered the cabin. He wore the raydon tunic, a heavy, silky garment for protection against the cold that was in universal use, consisting of a one piece suit readily slipped on by means of a zipper. Dark eyes glanced Bensar's way and rested on him for a moment and then strayed away, as if casually avoiding him.

But it was too casual, Bensar thought. For a moment he studied the man as he settled himself in his section. Those eyes. They seemed ordinary, and yet Bensar felt an uncanny power at their mere glance. And the more he watched them, the greater became his conviction that they were not ordinary eyes, but highly trained ones that saw things where others didn't, because they were very intense in their gaze.

However, Bensar turned his thoughts to the Rochelle automatic and the complexities to be overcome in constructing the powerful weapons. The Kulons! The beastly devils had found the others. Was it a prank of Fate that had cast them into the hands of Futura's most hated enemies? A bad stroke of luck at any rate, and yet they had gotten out of the crater with their lives. They were not yet doomed.

BENSAR became conscious of the hangar sinking and then the walls of the great shaft that let straight down appeared outside his window, seemingly sinking too. Out on the big wings of the transport the helicopter blades began to revolve with a high speed, low geared throbbing. The plane vibrated from the ascending elevator as it shoved its load up into the cold sunlight of a frigid world. Before the termination of the ascent the motors of the plane opened wide and the beautiful bird of the skies lifted itself gracefully into the air with little effort. It set off into the north

where dusk was already beginning to gather. The great orb of the sun rolled down toward the western horizon washing the white world in blood red.

* * *

"No. I can't find it. I've flown back and forth along the route a dozen times," Dubaran complained, wagging his head.

The door opened and Bensar entered.

"Well, Bensar!" You're back with good news I hope?" Ohfar greeted, rising.

On Bensar's face was a disturbed expression, as he greeted Ohfar in return.

"Yes, I got everything we wanted. It's all down in your personal work shop, and Hern is going over it to check it all," he stated.

"Ah, fine! Then you did as I instructed, I see. They didn't suspect at all?"

"Well, the clerk was curious at first especially over the extraordinary amount of quartz, but I reassured him," Bensar answered. He was silent a moment, as if brooding. Then he burst out. "Ohfar, we're being watched! I can't help thinking it. No, of course I have no direct evidence, but I just feel it. There was a fellow on the transport that seemed somehow vitally interested in me. I never caught him looking at me, but I could feel his steady gaze at times. That man could see things!"

"Ah, nonsense, Bensar. You're just nervous, that's all," the old scientist scoffed. "By the way, Dubaran's had no luck in finding that vault in the pass. He says everything is just a blanket of fluffy snow—eh, Dubaran?"

"Aye. Back and forth I've flown, but no luck. I guess that crater is filled up. Nothing I saw looked like the least sign of a crater, Bensar."

"Confound it!" the geologist exclaimed. He was visibly irritated by this latest news, and stood silent, his dark eyes intense pools of concentrated thought. "We're running a risk by not keeping right after it. What if the Kulons should find it? Ohfar, we must keep a patrol out over that territory to fly all the time. It's no use sending a ground patrol; they'd only flounder around in the snow. The Kulons can make better time, because they're a bigger race. And in the meantime we'll get right to work on the Rochelle automatics," Bensar spoke quickly and decisively.

Ohfar ordered a several plane patrol out over the borderland to keep up a vigilance for the lost chamber, and any signs of the Kulons who might find it. Secretly, he began to admire the energetic and forceful new change in Bensar, usually mild and unruffled in nature. The young man seemed to be awakening to his true capabilities in life.

Down in the bowels of the earth, Nudon, Ohfar and Bensar labored intensely over the building of a Rochelle gun. With the help of Hern, Ohfar's laboratory assistant, they were able to make an experimental disintegrating chamber to try out the action of the alloy amunition pellets.

"Well, we must have the wrong percentages of metal in that alloy, Nudon," Ohfar said, thoughtfully after tripping a little trigger only to observe no action. He picked up one of the pellets to look at it reflectively. Tiny little thing it was; sort of silvery.

The Exposure

AGAIN the metals were combined after their percentage of alloy was checked with the directions in the technical works of the ancient Americans. The little pellets were fed into their magazine and locked. Ohfar tripped the little lever attached to the cylindrical chamber. Instantly, there was a sizzling flash and a beautiful, dazzling flame streamed a short distance from the end of the quartz-lensed tubes connected to the firing chamber. Two smooth bare holes appeared in a two-inch metal plate some distance from the weapon.

"It works!" exclaimed Bensar, boyishly. "I knew we'd succeed. What a fine demonstration!"

So interested were the three in the thing of their mutual creation that they scarcely noticed the passage of time. And then late in the night came the realization that rest was necessary to carry on the completion of their work.

In his apartment Bensar went to bed immediately, tired from the excitement of the

day and worry over the uncertainties of the future. Why did the Futurans have to quarrel at such a time as this? Who could tell what the next move of the Kulons would be with such powerful weapons in their hands? Anything could be expected from such heartless, and ruthless beasts. And could it be possible for them to find the . . . Bensar slept.

* * *

Something ancient, prehistoric and perhaps instinctive from time immemorial, lying like a watch dog guarding him, went rushing down into Bensar's subconscious to spread an alarm. It was a vague, unreal sense of danger. He awoke tingling all over and keenly alert to sounds. Something was wrong, very wrong in fact, for in the insufferable, dead silence came the faint sound of an indrawn breath.

He reached for the para-gun at the side of his bed, and then switched on the lights. At the same instant a heavy bodied man lunged at him from the middle of the room. Bensar lithely rolled to one side and pulled the trigger. It was a light jolt he inflicted on his attacker so that the latter was only slightly paralyzed. He stared at the man who lay, breathing heavily on the bed. It was the one man he'd seen on the airplane coming from Raan.

What could he be doing up here in his room, Bensar pondered? Then his eyes strayed to the Rochelle on the small, solid block of a table by his bed. He had brought it with him for safe keeping. So, perhaps that was it! Raan spies in Dolor. The man stirred and rolled over weakly, staring at Bensar.

"What are you doing here?" the stern-faced geologist shot at him.

"I won't tell you!" the Raan spy said sullenly.

"You won't, eh? Well, you came for this, didn't you now? Come clean. I've a good mind to let you have it!" Bensar menaced him, shoving the Rochelle in his face. "Come on!"

"No, no, don't!" the man cried out terror stricken, shrinking back from the gun.

Bensar went to a speaking transmitter and called Ohfar and Nudon.

"All right, tell it," he prompted the Raan, turning from the instrument.

"What do you want to know?" the man growled.

"Everything!"

"Well, I came for that new gun your people have discovered and planned to use against us."

At this moment the two old scientists stepped into the room.

"Use against Raan!" Bensar cried in astonishment. "Who told you that, you poor fool?"

The Raan looked up at Ohfar as he entered. The latter stopped short, as if taken unawares, and then once more his face was masked.

"Ask him, he knows well enough!" the Raan exclaimed, raising his voice and pointing to Ohfar.

Bensar looked questioningly at the old man, waiting for an answer from him.

"Dolt Offal!" he sniffed, making a disgusted gesture with one hand.

"You think so? Well, that just what the executive head of Raan thinks of you after the pig-headed way you treated Loran and threatened him on his visit here," the thoroughly aroused Raan cried.

"What's this all about, Ohfar?" Bensar asked. "What did you threaten him with?"

"HE lies, the raving fool!" Ohfar exclaimed. He went over to the culprit and shook his first in his face. "You'll suffer for this piece of work!"

"That's not answering my question, Ohfar," Bensar stated evenly.

"I'll answer it for you!" the Raan yelled angrily. "Ohfar made a statement to Loran that he had a weapon fully capable of destroying the very substance of the walls of his house. 'And of course, we must be prepared, for we never know what's to happen in these days, Loran.' Those were his very words."

Bensar stood quite still, observing the earnestness of the man, as he spoke with a natural vehemence in his voice. His face was flushed from anger and there was a glint in his eyes. Bensar walked to the

center of the bedroom and faced Ohfar and Nudon.

"I want to know the truth about that interview with Loran," he stated calmly. "Just what have you in mind, you two?"

Nudon looked at Ohfar questioningly. The latter shrugged his shoulders. "Well, why not now?" He turned to Bensar. "We have previously doubted your ability to understand our motives, but since you drive us to it we must reveal our ultimate plans.

"You gave us an idea the other day when you said Futura needs a ruling head over all. Well, that's just what we plan to set up here in Dolor—the Chief Executive of all Futura. However, Raan and Lura have always opposed such a consolidation, preaching sectional control of personal rights. Hence, we find it necessary to bend them to our will."

"And I suppose the way you'll bend them is by means of the Rochelle gun, eh?" Bensar prompted ironically.

"Of course."

"Fools! Colossal ignoramuses!" Bensar exploded in a rage, walking away disgustedly only to return immediately and confront the two. "What supreme ignorance you display toward the almost certainty of a Kulon invasion. Can't you be big enough to meet Raan and Lura half way to cooperate so we can repulse Gritsoff?"

"Why, the Kulons are nothing. They are an ignorant race of primitives that can never cope with the intelligence of the Futuran mind. Subduing them is only incidental to our plans. And you may as well know it now—we've just discovered a mine to the west of us that will supply all the necessary metals and quartz we need for our weapons," Ohfar explained.

"Yes, the Kulons may be ignorant, but they can handle Rochelle guns and planes devilishly well, Ohfar. Well, count me out in your program of aggressiveness. I won't be a party to the downfall of Futura. That ancient writer was right when he wrote that 'might never makes right' and that it seemed one of the hardest lessons for man to learn.

"Just let me go scouting with Dubaran so we can keep an eye on the Kulons. I'll do my little bit in that way, and keep my conscience clear!" And Bensar looked with crystalline clear eyes into the cold calculating ones of Ohfar.

CHAPTER VI.

The Coming of the Menace

"ALWAYS the same—just a white waste down there, Bensar. We've been over this for almost a week now and discovered nothing. It's disgusting, isn't it?" Dubaran said, guiding the purring transport over the endless white desert that spread out below them.

Bensar nodded absently, peering down through the thick plate glass in the floor. He was thinking of the impending struggle between Dolor and Raan. Ohfar and Nudon had been making preparations secretly night and day for almost a week. They had a corps of munitions workers in the underground laboratories of the University building where they both taught. Here they were directing the manufacture of Rochelle weapons for use in a massed aerial attack.

And more sickening still was the discovery that Ohfar had made in the military records of the ancient vault. He had found a description of an instrument for projecting shells carrying a malignant disease that would decimate the populace in short order. Ohfar had planned to use this if necessary.

They were all madmen, Bensar thought, they were insane with the possession of power. "A little knowledge is a dangerous thing." He smiled grimly at that. Dangerous? It was proving fatal! Would that he had never found the ancient chamber.

Without warning the nose of the plane went straight up as if struck by a tremendous force. The ship continued straight up until it lost its momentum, hanging poised in the air like a spent arrow at the peak of its flight. Then it slid backward and downward. Desperately Dubaran maneuvered to bring the ship out of its sickening plunge.

"Wh—Why, what happened?" Bensar

managed at last, after recovering from his fright.

"I don't know! Something struck the nose of the plane, I think. I don't see anything, do you?"

They searched the sky for something tangible. There was only empty space around them. Puzzled, and greatly mystified, they flew back toward the same direction. Again came the giddy sensation of sliding backward down toward earth.

"Dubaran, fly at right angles to your former course right along here, will you?" Bensar asked, white of face. His hands were unsteady as he knelt down on the glass, staring fixedly at the earth, as if searching frantically for something.

"Why?" the pilot queried, looking back.

"Just do it. I've a terrible idea and I hope it's wrong."

The plane approached the same locality and then turned at right angles to the course of flight.

"Now turn just a little to the other direction and see how the controls feel in your hands."

The ship turned slightly and then came a light bump as if it had struck something strong and silky. There was a sensation as if it were sliding along an invisible wall unable to make any further headway.

"Head for Dolor, Dubaran, quick! It's just as I feared in the first place. The thing we ran into was a fan repulsor. I remember just seeing a description of it in the ancient records. But I paid little attention to it at the time. May Mother Nature have mercy on us. The Kulons have found the vault and are already using some of the infernal war machines of a highly civilized race! Wonder how we missed seeing them? They must have tunneled into it."

Before Dubaran could answer, blackness of starless empty space enveloped the entire plane as if they had suddenly pierced a sphere of nothingness. The pilot cried out in horror, absolutely aghast. But Bensar jumped to a port and drawing out his Rochelle fired into the darkness. Daylight, blinding and vivid snapped back into place. Dubaran was almost unnerved by the awe-inspiring phenomenon.

"Quick, give her all she has! That was the 'Black electron cloud' they threw around us. But I was able to break it up, thanks to that ancient Rochelle!"

Bensar nervously watched between the side ports and the floor light, on guard for any exigency.

Many planes were flitting about over Dolor, for war had been formally declared between Dolor and Raan backed by Lura. A Dolaran squadron was being made up for the initial attack on the two cities. Curiously, people watched a plane come hurtling from out of the north and flutter for the first shock attack, inflamed with war.

Into the high-ceilinged gray room Bensar and Dubaran strode. Ohfar and Nudon sat before a long ground glass mirror that seemed to quiver and light up uncertainly. The city of Raan, appeared on the screen, busy as a bee hive. Ohfar was chuckling.

"JUST sit where you are, gentlemen, and remain comfortable," Bensar announced quietly, leveling an automatic at them. Ohfar and Nudon stared stupidly. "A greater peril than you ever thought of has come upon us. While you two old fools have planned a nice little confidential war for yourselves down here in Futura, Gritsoff has looked on and laughed to himself. He has discovered the vault! Hear me? Ever read anything about the fan repulsor, Ohfar? Or the 'Black electron cloud'? You bet you have. Well, we've just met them for the first time up north."

"The 'Black electron cloud'," Ohfar whispered, his face ashen. He could not ignore the fierce bluntness of Bensar's delivery. "And you—got out of it?"

"Yes with this," Bensar said laconically, handling the Rochelle automatic in his hand.

"Now listen: this little war of yours is over before it's started? Call Raan and tell 'em you were only fooling—anything to head them off. And ask to have a peace conference in Lura right away. Then we'll spring the bombshell about Gritsoff. But before we go to Lura, Ohfar, for God's sake get your men working on the layer screens

and spirals. You know what I mean. We've got to be prepared for anything. No telling what else those hellions found in that chamber."

"Y—yes." Ohfar was suddenly weak. He looked like a man suddenly sane again, dazed by the stark reality of things about him. "Must be prepared for anything," he repeated.

In Lura was a very ancient stone building, a tradition that had been preserved and restored for centuries. It was the symbol of Futuran legend, embodied in cold slate-gray walls that rose sheer into a sweeping frigid wind. Here was held the conference called by Dolor.

Nudon humbly and apologetically rose to speak.

"Gentlemen of Futura: We beg of you for the moment to forget all the age old jealousies that somehow have arisen between us. We humbly ask your pardon for the near tragedy we caused. But we have been brought to our senses by a young mind who really belongs to the most illustrious period of earth history—that of thousands of years ago.

"I will let him tell you the real circumstances as they now exist. I assure you if ever there was a time for investing military power over all Futura in one person it is now. And I know of no other person peculiarly fitted to meet the present crisis than Bensar, the young discoverer of the Ozark monument, who has made a study of all the records found therein . . . . Bensar."

And the old grey head stepped aside for the younger man.

Bensar stood there in the big hall before all the officials of Futura, a leader of men come into his own. His voice echoed with a thrilling ring in the large cathedral-like room.

He gave a straightforward account of everything, parading first hand evidence and firing challenging questions and facts and figures at the assembly. Pertinent enquiries were put forth by brilliant minds, leaders in their profession, and Bensar met them nimbly with the facts that he kept at his finger tips. And before he was through, he had welded a comparatively strong union of Futura. The people were awakened to the menace of the Kulons that had suddenly assumed terrifying proportions. Willingly or not Bensar was unanimously made the leader of Futuran military operations, and once back in Dolor set about preparing his attack on the Kulons.

At Grips!

MORNING came to find the world strangely quiet. There was hardly a faint stirring of wind, and an unnatural, eerie tension filled the atmosphere, as if titanic forces were girdling themselves for battle. Dolor lay like a city of the dead, so still was it. In fact, it looked vaguely different, as if a thin, transparent filmy bubble covered it like a hemisphere. The film seemed alive, quivering oddly at moments. And the city beneath it lay like a thing of the wild, waiting, watchful, prepared to spring into terrible action to tear and rend savagely.

From out of the north came a whispering murmur, sibilant and fearsome. With it came a whirling, beautiful golden spiral that appeared to glow from incandescence. It swirled across the heavens like a mad dervish, approaching the watchful Dolor. Slowly it moved, waiting for some unknown, desired opening. Like some wild animal stalking its prey, the golden spiral, sputtering and crackling, circled the city high over-head.

Suddenly, it was enveloped in a blood red cloudy vapor that clung about it tenaciously, absorbing it slowly. There was a grand spectacular scene of flashing discharges and thunderous reports as brilliant sparks stabbed the blood cloud. And then in an instant there was nothing, the display having vanished utterly.

And still Dolor lay quiet, watchful and unruffled. It was like the silence following a heavy, high voltage discharge between two shiny brass electrodes. All that was left was the auditory memory of the terrific crackling. And then it came. A glorious, opalescent yellow ball that arched high up into the sky from out of the north, hurtling downward following the course of a para-

bola. Behind it streamed a vibrant, quivering blue-green tail of leashed force that looked like a rainbow with one end reaching for Dolor, and the other arching northward over the earth's bulge.

But the ball never struck the city. From a great sphere of quartz resting on a tripod in the center of Dolor streamed a blood red haze that reached out caressingly, flowing around the ball. And the haze, swirling and twisting like restless pure force, ate up the opalescent tail, absorbing it and reaching out for more until the vapor stretched beyond the horizon. Then it suddenly vanished, and the thin film that enveloped the city snapped like a punctured bubble, and scores of airplanes rose into the sky and sped north rapidly like a swarm of errant bees.

"Give her everything, Dubaran!" Bensar, commander of Futuran military operations, exclaimed excitedly. "Things are a mess up there. But we want to follow up our work. That was some scene on the television screen when our kinetic sworl reached their generating plant, eh? Glad I wasn't around. Bet it melted things a mile away! They certainly streamed from the town when they saw that violet vortex coming down, didn't they? Arriving on the scene now, we'll demoralize 'em."

They circled over the melted mass of the Kulon city and then raced north, coming upon stragglers fleeing frantically over the snow. And then suddenly the Futura squadron ran square into the midst of a Kulon fleet of fighting planes. It was a silent, terrible struggle with ships vanishing in spurts of gas, or coming down in flames locked together in death grips. Fiercely they attacked one another, sweeping high to maintain altitude and gain advantageous positions, only to dart down again spitting twin flames, twisting and turning in their downward course.

Each knew it was the final battle; care was abandoned as they rushed headlong into the opposing lines of battle squadrons. Like great wasps, humming madly about in the air looking for something to sting after once being roiled, they flew on. Viciously they swooped, dodging the death rays to weave in close enough to unleash a hissing tongue of pale fire and fall away to their own lines again, if they were fortunate enough to escape a similar attack.

Riding slightly higher than the rest and a bit to the rear was the fast, trim looking war bird—Bensar's plane. The young commander stayed at the floor light, a hand microphone to his mouth giving quick, terse orders to the fighting planes below. Slowly, his method of attack was beating the Kulons to earth.

The Futuran planes concentrated on the center of the Kulon lines, sustaining such a fierce attack that the latter were no longer able to rise to any altitude that would put them at an equal advantage. Occasionally, Dubaran had pursued enemy ships that had got through, but suddenly a big black one broke through an continued coming for his plane with disconcerting swiftness. He was caught off guard.

"Gritsoff! And he's going to crash us! Must be out of ammunition. Hold her nose straight at him, Dubaran. Got to face it this time."

Bensar was at the aerial Rochelle in a trice and had a bead on the hurtling enemy ship, coolly measuring his time to make sure of a hit. A drop of moisture stood out on his forehead. The ship seemed to fill the whole sky as he watched it grow to mammoth proportions. Then he released the firing lever with a click. The next instant they drove through a cloud of white gas that swirled past the ports of the fighting plane like a heavy fog. Bensar looked at Dubaran solemnly, reading an involuntary pang of compassion in the mild eyes of the pilot. He nodded in silent tribute.

ONCE again Futura breathed freely, and thankfully too, for the menace of the Kulon invasion was no more. And to celebrate its rehabilitation as a true world power, popular opinion arose throughout the country to place at the head of the new central government the brilliant young mind that had effected the change.

Throughout all Futura was a holiday

(*Concluded on Page* 361)

Twelve Hours to Live!

By Jack Williamson

(Illustration by Marchioni)

The man below the crystal floor darted madly through the red dust—moaning, pleading, praying . . . .

Twelve Hours To Live!

By the author of
"The Alien Intelligence"
"Through The Purple Cloud"

WEARILY, Captain David Grant paced the bridge, pausing at intervals to peer out with heavy-lidded eyes at the star-studded blackness of interplanetary space, beyond the small round observation ports.

For three days the *Queen of Night*, Grant's rocket liner, had been pursued by the implacable vandal of the interstellar void, the *Black Hawk*.

For three days Captain Grant had kept his great space-liner, with her rich cargo of uranium salts from the mines on the outer satellite of Neptune and her hundreds of passengers, ahead of the questing disintegrator rays of the *Black Hawk* only by burning his full battery of reaction-motors at their maximum power.

And the fuel was almost gone—word had just come from the rocket rooms that the last chest of the radioactive *protonite* had been opened. In a few minutes the great liner would be at the questionable mercy of the *Black Hawk*.

Slowly the vibrant humming of the motors, which had filled the great ship with a vital under-current of sound, died away.

The black pointer which indicated reaction-pressure crept back across its dial toward zero.

The *Queen of Night* was no longer accelerating her speed.

Watching keenly with tired eyes, Grant saw a vague pink glow come into being in the jet, star-sprinkled sky behind. "Done for!" he groaned.

The glow, he knew, was a fluorescent, electronic discharge in the radioactive gases jetting from the rockets of a racing ship. The *Black Hawk* was swiftly overtaking them!

"Man the rays!"

The Captain spoke the order into the black mouthpiece below the television screen. He tried in vain to keep hopelessness from his voice. For what chance had the two feeble ray tubes of the *Queen of Night*, against the powerful armament of the *Black Hawk?*

His mate's square face appeared on the screen.

"Man the rays it is, sir," came his voice.

Captain Grant turned quickly away, for he heard a light footstep and a snatch of gay song from beyond the bridge-room's entrance.

The avol metal door swung open suddenly, and a gay, laughing sprite danced through.

"Nell! Nell! Darling—" the captain cried and his voice suddenly choked.

The radiant being ran across to him; in a moment his face was buried in a fragrant mass of gleaming red-gold hair.

It was Captain Grant's lovely bride, whom he had married just before the beginning of the voyage. He had not told her of the vandal pursuing them—it had seemed to him

***JACK WILLIAMSON** is a master of stories that grip and thrill one. His rich descriptions, his portrayal of the atmosphere of strange places, his tense situations, all recall the work of the master, Edgar Allen Poe.*

At the end of this story will be found the announcement of a prize contest, based upon the story. But aside from the interest of the contest, we have here a short but thrilling incident of the interplanetary spaces. This short work contains in itself all of the danger, the bravery, the cruelty that might be expected when man extends his range of activities to the distant planets.

There is no doubt but that the spores that Mr. Williamson pictures could be the natural growth of another world, such as the hot steamy Venus; and that such spores could be a means of protecting the vegetation of the planet from the intruding hand of an invader such as man.

a crime to blast her joyous happiness with helpless anxiety.

"What's the matter, Dave dear?" came her voice, half smothered in his embrace. "You seem worried lately—and you've been busy in here for three days and nights. You must sleep!"

"Look!" the Captain said, and pointed out through a port.

A thin sword of green stabbed across the blackness of the sky, darting like a wicked blade toward the liner.

"Oh, it's lovely! she cried. "What is it, a comet?"

His face grew white, his jaws set, lambent flame glowed in his blue eyes. His arms tightened fiercely about her.

"Nell, darling!" he cried.

He looked away, swallowed. In a moment he went on.

"I haven't told you, but the Black Hawk is after us. For three days we have been running for our lives. And it begins to look as if we had lost the race. You know what it means — the Black Hawk! I didn't tell you; I didn't want you to worry."

Brown eyes looked up at him, wide with alarm.

"The Black Hawk! The pirate?" she cried. "But don't worry, Dave—I know you can fight him off!"

Captain Grant's eyes suddenly glistened, and he had to swallow again. He drew her close, kissed her shining mass of hair, her sweet face.

"Yes, we'll fight," he said fiercely. "We'll fight. And now you must go back below, dear. The bridge is too exposed, too dangerous."

"No, no!" she cried. "I'd rather stay with you."

Gently, he pushed her through the door.

Brushing the moisture from his eyes, he sprang back to the television screen, and began to give orders for the coming combat.

The humming song of the motors ceased. The indicator needle swung back to zero. The fuel was exhausted. The liner, drifting helpless, was completely at the mercy of the pursuing pirate.

And the pinkish glow in the sky behind grew more distinct, with the black outline of the pirate vessel in its center.

JACK WILLIAMSON

AGAIN and again, searching fingers of green flame reached out of that black ship. Green lances searching for the liner, to disintegrate the atoms of her armor into brown atomic dust, to cut away her walls so that the vital air would rush out, leaving passengers and crew asphyxiated in a frozen vacuum.

"Hold our fire," Grant ordered. "That's the only chance—wait until they are in easy range."

Minutes throbbed by.

The *Black Hawk* hurtled on toward the liner, until the sinister curves of its ebon hull were plainly visible.

Three times the green tongues of the pirate's disintegrating rays swept across the helpless ship. But the hull was not broken; the pirate sought to plunder rather than to destroy.

Captain Grant nervously paced the bridge. Each time the blasting green fire of the enemy rays had fallen upon them, he had turned uncertainly toward the television screen, with the order to fire trembling on his lips.

And each time he had checked himself.

"Wait, wait!" he had muttered again and again. "Not yet!"

At last the trim ebon length of the pirate vessel was close beside the liner, airfoils folded to her smooth hull, little jets of rosy flame hissing occasionally from her rockets to hold her in position.

"Do you surrender?" the query flicked from the heliograph of the enemy—a swinging mirror reflecting the light of the distant sun.

"Fire!" Captain Grant shouted toward his television screen, by way of answer.

The lone bow turret of the *Queen of Night* swung suddenly about. Twin narrow tongues of bright fire flashed from it like lances of emerald. The black hull of the pirate shone green where they struck.

A dreadful reply came from the *Black Hawk.*

Myriad arrowed rays leapt from her black length, sparkling jets of green radiance. They converged upon the silver-armored turret from which stabbed the two defensive beams.

Brown powder swirled away from the turret—neutronic dust, matter annihilated as such, when its electrons had been hurled into their central protons by the ray.

The turret glowed green, crumpled, vanished.

A swirl of brown dust clouded the blackness of space.

Captain Grant groaned, and clutched the edge of an instrument panel until his knuckles shone white.

"Do you surrender?" the heliograph flashed again.

The captain made no move to reply. But he was without resource. He could neither fight nor run. He could merely pace up and down the bridge like a caged animal, as he watched the tiny auxiliary rockets putting off from the pirate, and darting across toward the liner, under cover of the threatening rays.

He was helpless as they fastened themselves upon the liner with magnetic clamps, and began cutting openings through her hull. He could only have the ship's meager supply of hand arms served out, and the crew stationed to repel the invaders.

The fighting was bloody but hopeless. Half an hour later the *Queen of Night* was in the hands of the individual who gave the same grim name, the *Black Hawk*, to himself and his ship alike.

Nell had come back to the bridge. She and the captain had barred the door. They were in each others' arms when it was broken down.

To Captain Grant's surprise, he and his bride were treated with elaborate, though mocking, courtesy. They were conducted to one of the auxiliary rockets attached to the doomed liner, and transported across to the black ship.

When the little vessel had slipped through the airlocks of the larger one, and they stepped from it, the Black Hawk himself greeted them.

A tall man, suavely polite, immaculately attired. His hair was long, lustrous, silken, brilliantly black.

Even his eyes, cold and mocking, were black as jet.

He bowed deliberately to Nell, and siezed Captain Grant's hand with effusive mocking cordiality.

"Congratulations, Captain," he cried in a voice that was low, cold, and toneless. "Your defense was excellent, considering the disadvantages under which you struggled. Your flight, with the clever twists to evade me! Your cleverness in withholding your fire to the last moment! You have given me the most diverting hours I have had in months. I am deeply in your debt."

"Thank you," the Captain said, ironically.

"I assure you that I really owe you much," the Black Hawk insisted. "I see that you doubt my sincerity. To prove it, shall I grant some request for you?"

The lean, dark face of the pirate twisted into a cold, mocking smile that was almost a leer.

"Honestly, do you mean it?" the captain demanded, with eagerness and doubt mingled in his tone.

"Certainly. But name your wish."

"Will you spare my wife—take her back to some civilized planet?"

For long seconds, the dark visaged man stared at the captain and his lovely bride. Suddenly he appeared to think of something that pleased him hugely, for his white teeth gleamed in a sinister smile, and his black eyes flashed diabolically.

"Which Chest?"

"WITH all my heart!" his cold voice cried. "And since I fear the lady would find little joy in a life without you, I shall also set you at liberty!"

With tears of joy in his eyes, the captain grasped the Black Hawk's cold hand.

"Come," the pirate said. "Forget the favor, if such it is. You have earned it. Your wife will be shown to her rooms, and we shall watch the fate of those prisoners who were not so fortunate as yourself."

The Black Hawk led Captain Grant away through the rocket's maze of passages, and a servant guided Nell to a luxurious stateroom.

The Captain will never forget the horror of what followed.

The mocking saturnine pirate conducted him into a domed room, whose curved walls and roof glistened with silvery brilliance.

The floor of that room was transparent crystal. Beneath was a large circular compartment, without visible openings. Its floor was covered with a curious red substance, in oddly shaped masses. Grant shuddered as he saw those crumbling red forms. They looked weirdly like decayed statues—they were horrible travesties of human shapes.

"The space below us", the Black Hawk explained, in his chill, mocking voice, "contains a certain variety of crimson fungus. The original spores came from the jungles of the third satellite of Neptune.

"The fungi, you know, are a group of thallophytic plants, of which molds and mushrooms are members. They are devoid of the chlorophyll to which green plants owe their color. Reproduction is largely by means of asexual spores. A characteristic is the great speed with which some varieties grow.

"This particular type has a peculiar avidity for human flesh, and grows with unprecedented speed. It amuses me to watch its development upon the bodies of my less fortunate captives. But watch the results for yourself!"

A panel had suddenly slid open into the space below the crystal floor. A man, stripped to the waist, whom the captain recognized as a luckless engineer from his crew, was thrown into the strange room. The panel instantly closed.

The naked man fell on his face in a cloud of red dust. In a moment he stumbled to his feet, coughing, gasping, strangling, beating wildly at his face.

The Black Hawk touched a lever that seemed to close the circuit of a microphone. Instantly the captain heard a scream of insupportable agony from below.

The man below the crystal floor darted madly through the red dust, hammered wildly on the walls with bare fists, shrieking, moaning, pleading for aid, praying.

Suddenly his tortured body stiffened, grew rigid. Curious masses of scarlet filaments or hypha, resembling tufts of red hair, sprang from nostrils, eyes, and ears.

Crimson growth spread swiftly, until the body seemed covered with red fur.

And in a few moments it fell over, crumbling, with a crimson cloud of spores swirling about it.

"What do you think of my hobby?" The Black Hawk inquired with a taunting smile.

Captain Grant was sick with horror.

"You—you demon!" he choked.

Blind rage suddenly overcame his shuddering horror.

Clenching a fist, he swung abruptly upon the Satanic pirate.

The Black Hawk's hand came up swiftly, holding a tiny but deadly ray tube.

"You forget yourself, Captain," he said, "Remember that I promised to spare you and your wife from undergoing the little ceremony we just witnessed. Do not make me recall that promise."

The captain fell back before the menace of the weapon, suddenly weak and trembling.

"Let me out of this infernal place," he muttered.

The Black Hawk called a steward to show him to his room.

For a week Captain Grant and his wife were enforced guests of the pirate, treated with deliberate, if taunting, courtesy.

The black rocket, laden with plunder, continued her restless cruise of the void.

Then, after a night of troubled sleep, the captain awoke to find Nell gone from the luxurious stateroom which they occupied.

At once, he sought the Black Hawk, who greeted him with his usual half-sneering politeness.

"Your wife is slightly unwell," his cold tone informed Captain Grant. "She has the attention of my specialists. You need fear nothing on her account.

"And you will be interested," he added, "to know that we are soon to part. In a few hours we enter the atmosphere of the planet Venus. You and your wife will be landed there today. I regret that I must lose your companionship."

"Whatever happens to me, please don't harm Nell," the Captain pleaded.

"My word is still good," the Black Hawk said coldly.

SEVERAL hours later, somewhat to the surprise of Captain Grant, the rocket landed on firm ground. He was assisted from the port, and looked about anxiously.

The slender black hull of the rocket lay on a bare sandy beach. Above it rose a barren gray rock. A vast waste of green-grey ocean stretched away in all directions. Dense gray clouds filled the sky.

The tall form of the Black Hawk stepped out beside him. "An island on the planet Venus," he said. "It's less than a thousand miles to the city of Thalong, from which aid can reach you."

"But my wife—" the captain cried.

"Here she is."

The Black Hawk pointed to two large chests, of a white, silvery metal, which the crew were busy lowering through the port. In a moment they lay side by side on the sandy beach.

"Your wife is in one of them," the pirate said, with a demoniac smile. "She is under a mild anaesthetic which will keep her sleeping quietly for twelve hours. The chest contains sufficient air to last her that long, and no longer. It contains also a supply of food and water, and a portable radio transmitter, with which you may summon aid. The chest is not locked—you have merely to lift the lid."

"And the other chest?" The Captain's voice was anxious.

"Ah! the other chest!" The Black Hawk smiled. "The other chest! It is filled with spores of crimson fungus. If you, by any unfortunate mistake, open it, a cloud of the spores will instantly fly out and settle on your skin. You will meet the fate of the man we watched through the crystal floor."

"Which chest—" Captain Grant cried, his voice trembling.

"Ah yes, which chest!" The Black Hawk's suave tone replied. "That is for you to decide. Remember your wife will live only twelve hours, if the chest is not opened. And good-by, my friend."

Leaving Captain Grant shaken and speechless, the pirate of space sprang back through the port. Roseate flame hissed from the exhaust nozzles of the long black ship. It leapt up to vanish in the gray clouds.

The captain was left alone with the chests.

They seemed identical in every respect. The ornate pattern engraved in the silvery metal was the same on each chest. They were roughly three feet square by six in length.

The captain fell furiously to examining them. He could detect no faintest difference. He held his ear against each, in hope that some faint sound of breathing might reach him, to reveal which held his precious Nell. But he heard nothing.

He left the chests and walked anxiously up and down the beach, gazing wildly over the vast desert of water, staring into the gray gloom of the sky. Many times his heart leapt, as he thought he glimpsed a distant rocket plane. And always it fell again, when he found his eagerness had deceived him.

He turned again to the bright chests, lying side by side on the white sand. He ran from the one to the other listening, feeling them, even tugging a little at the lids.

His brain was a wild chaos of wonder. Suppose the Black Hawk had tricked him? Suppose the chests were empty? Suppose both contained the fatal spores? Suppose

his lovely Nell were in one and the food and radio set in the other?

Again he walked up and down beside them, thinking madly. Hours went by, and he must soon release his wife or she would be suffocated.

Impulsively, he bent to raise the lid of the nearest.

His eyes caught fine letters engraved on the edge of the silvery lid.

"THE OTHER ONE".

The Black Hawk had cut it there. A warning. Captain Grant ran to the other chest. But with his hand on the lid, he paused, trembling, his body clammy with a cold sweat.

Might the warning be false? Had the letters been cut there to cause him to open the deadly chest? Or did the pirate intend the words to save his life?

He ran back toward the first chest, he stopped, and collapsed in a trembling heap. Cold sweat chilled him; a strange dizziness came over him, his throat was dry; he trembled.

But the time was up—he must delay no longer. He tottered to his feet, ran back to the chest without the warning, tugged at the lid. Dizzy weakness overcame him.

"A trick," he muttered.

He turned and staggered to the other, and grasped the lid. The inscribed words, "THE OTHER ONE" caught his eye again. He recoiled as from a deadly snake.

He ran away from the chests, stumbling across the sand, eyes wild with fear. He imagined the swift red mould growing over him, choking him, converting him into a rotting, crumbling mass.

He would not open the chest! There was a fair chance that he would be discovered by some passing air-liner before he starved to death.

Then the hideous vision of the death of the scarlet fungus was dispelled by a picture of Nell as she had been on the recent wedding day. Happy, singing, gloriously lovely, devoted to him. She was in one of the chests, suffocating. He could not let her die!

He rushed back to the chest with the warning on it. As his fingers sought the lid, he imagined the sudden swirl of red spores, the agonizing pain he would suffer as the quick growth entered his lungs, covered his body, choking him, piercing him with swift-growing rootlets.

Trembling weakness overcame him. He staggered back, wiping cold perspiration from his brow with the back of his hand.

For a moment he paused, irresolute. Then he pictured Nell, awaking in the coffin-like prison, beating weakly against its walls, gasping for breath, dying. He staggered toward the other chest, hesitated, ran back to the one with the warning words.

With a sudden convulsive effort, he tugged at the heavy lid . . . .

THE END.

Fifty Dollars in Prizes for the Best Letters

based on the problem Mr. Williamson has set forth in the foregoing story,

"TWELVE HOURS TO LIVE!"

You have all read this thrilling little story and grasped the terrible dilemma our space captain is in. He must act quickly, and also shrewdly. If he opens the wrong chest, there is death for him as well as his wife. If he opens the right one, he will find not only his wife but also food and water, and a radio set to call for help from the nearest Venusian settlement.

BUT WHICH IS THE RIGHT CHEST TO OPEN?

That is the question we put to you, our readers. Suppose you were the space captain and you were trying to determine which chest to open to save both yourself and your beloved wife from terrible deaths

HOW WOULD YOU DETERMINE WHICH IS THE RIGHT CHEST?

For the best, the most ingenious and convincing letter of NOT OVER TWO HUNDRED AND FIFTY WORDS, legibly written or typewritten, telling how you would determine in which chest the space captain's wife was, we will pay $25.00. For the second best letter we will pay $15.00, and for the third best letter $10.00. You may use any means you can think of, that are in harmony with the facts of the story.

All letters should be addressed to Prize Contest Editor, Stellar Publishing Corporation, 98 Park Place, New York, and must be received before 12 noon, August 15. The prize winning letters will be published in the November 1931 issue of Wonder Stories.

The World Within

(*Continued from Page* 329)

tle eminence, and yes,—I tried to will myself back into my own world.

"Something trailed across me. I sprang to my feet, startled. There was the ladder, just passed over my head! The six feet or so of it was dragging along the top of the eminence, and the top portion was well in front, and moving fairly quickly. I shot like a bullet to the top of the rise and simply stamped on the end of the rope in my eagerness. My feet became clumsily entangled among the rungs. The ladder jerked me off the edge of the hill, and I began to swing to and fro in a most uncomfortable and grotesque position, head downwards. Imagine a pendulum a hundred feet long! Down I rushed in a giddy sweep, rose, hung suspended for a remarkably long time, then down again. I estimated the time for one oscillation to be about twelve seconds.

"I do not know how I managed to extricate myself from this awkward position, but eventually I found myself slowly ascending the ladder.

"My struggles to free myself were so violent that my rifle went off and shattered an extremely fine capillary two hundred yards away. The last vision I remember of that other world was a welter of blood pouring over the grey plain, and convulsions shaking the walls.

"Then of course I clambered into the room and found all the furniture upset, with you brandishing a chair over my head, and Klington here pointing a gun at me; and gosh! how heavy I felt."

THE END.

The 35th Millennium

(*Continued from Page* 353)

spirit that it had not known for centuries. Public mirrors of the recently established Visual News Association displayed the festive events that were happening in the various cities both large and small, for the day was an historic one in Futura. But most important of the news was the colorful inauguration of the Chief Executive of all Futura, Bensar.

In the crowded assembly room of the ancient stone building of Lura was the first conclave of United Futura. The great hall buzzed, as the executives of Raan, Dolor and Lura finished speaking. The new Chief over all was going to address the people. He arose, a striking figure in snowy raydon, to stand regally on the crystal dais that was raised above the prehistoric stone floor.

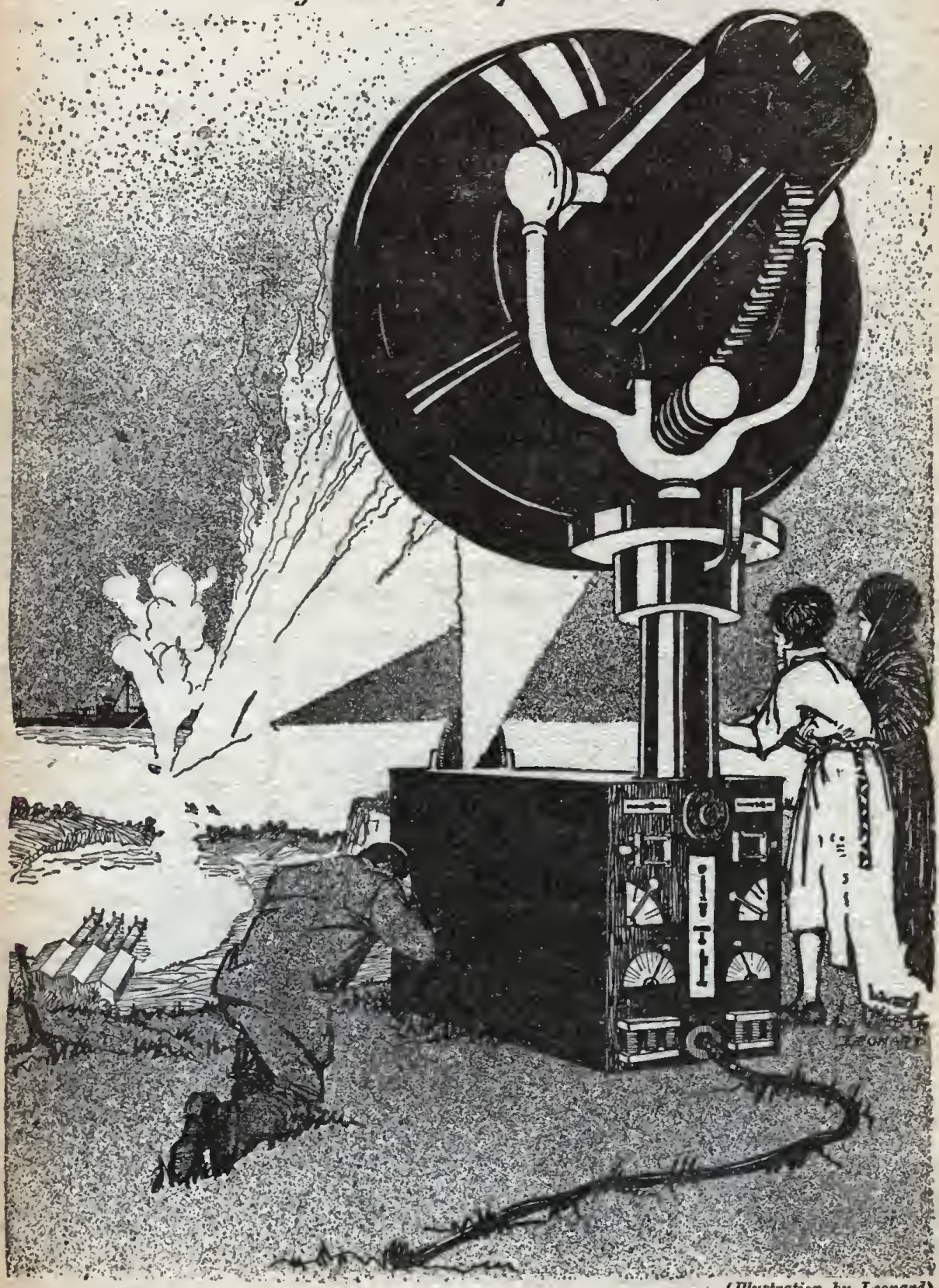
In clear, concise sentences he delivered a thesis on the future policies of the new regime.

". . . . And I am going to make it necessary to study the history and culture of our revered progenitors, for even a little knowledge is a dangerous thing, as we decisively showed the Kulons." He turned to smile at Ohfar, who cleared his throat lustily to say: "I quite agree with you!"

THE END.

The Island of the Giants

By A. Rowley Hilliard



(Illustration by Leonard)

He swung the reflector. The boiling steaming circle rushed across the sea—enveloping the little boat.

The Island of the Giants

By the author of "The Avenging Ray"

SINCE the advent of aviation, many strange parts of the world, entirely unknown before, are coming to light. The natural barriers to travel—impassable mountain ranges, dense jungles, treacherous swamps, are levelled by the wings of aviation, and the whole earth is being scrutinized more and more closely.

It can be expected then, that many races, strange sects, unknown species will be discovered during the journeyings of fearless aeronauts. There is no knowing how weird or bizarre our discoveries may ultimately be.

Mr. Hilliard whose gripping, "Avenging Ray" in the Spring 1931 Quarterly was greeted with such applause gives us now a related story dealing with the son of the wizard Dr. Jules. We have the mystery of a disappearance to be solved, and coincidentally the conflict of a great nation with a small, powerful but unknown race: You will like this!

"LET 'er go!" said Jerry; and, with a squealing of pulleys, the mainsail folded down to the cabin top. Its jib flapping, the sloop drifted nearer the shore.

Howd, busy with the sails, spoke back over his shoulder: "So this is Neeya!—Began to think we never would catch up with it!"

All day long they had been within sight of the island, but the almost complete Pacific calm had limited their speed to a feeble crawl. Now the crimson sun was setting in the sea behind them, and on the shore ahead it was already deep twilight under the trees.

"Volcanic — huh?" observed Howd. Less than a quarter mile back from the water's edge rose a wall of rock, high and forbidding.

"Don't care if it is," disclaimed Jerry. "Don't want a volcano —just some fresh water!—See any of that, Perfesser?"

"Hit it right on the nose!" grinned Howd. "—See there, over to the left of that sandy place . . . . That's a brook, if I ain't crazy. Gee, that's a pretty place!—Say," he exclaimed, struck with an idea, "why don't we sleep ashore tonight; get a good stretch?"

"How's the wild life around these parts, Doctor?"

"Smallish," Howd assured him. "Ain't nothin' going to eat you! I doubt if there's anything on the island bigger than a goat."

"I'm with you!" said Jerry . . . .

Two hours later, their supper finished, they lay on the ground beside a campfire; but in place of comfortable relaxation there appeared in their attitudes a certain tenseness. They pulled jerkily at their pipes.

"I don't like this place," said Jerry softly. "There's something funny about it."

There was no moon, and all around their little patch of firelight pressed the heavy, warm darkness.

"Well, we'll be gone tomorrow," answered Howd. "I guess we never will find out what *that* is." They both, strained their ears, trying to analyze the sound that puzzled them.

It was a low, ceaseless hum—far off, but insistent—utterly bewildering in such a place.

"Gosh, it sounds like a machine!" said Jerry.

"Machine!" snorted Howd disgustedly.

"Well, there's no reason why there couldn't be people on this island," Jerry defended himself feebly.

"Might be, but you can bet your life they never saw a machine. Just a few aborigines—"

He stopped, and sat up suddenly, as out of the night there came a strange, quick bellow of sound. The two men stared questioningly at each other in the dim, red light. Jerry spoke in a tense whisper: "My God, Howard—that was a *voice!*"

"*Human* voice, you mean?—Hell—you're

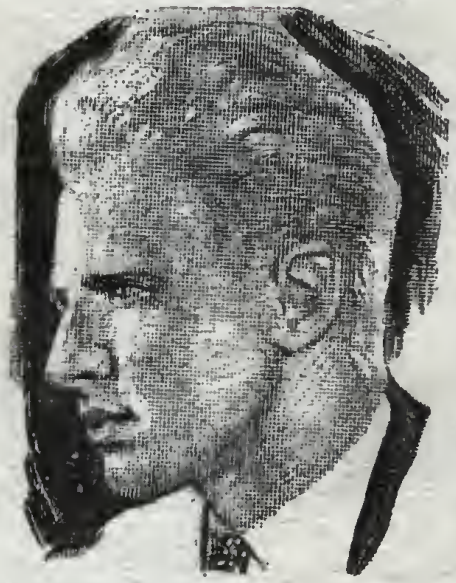
crazy . . . More like an elephant . . . "

They were silent while Jerry struggled against the conviction in his mind. "Gosh," he grasped, "for a minute I could have sworn that—

"Well, anyway, whatever that was, it was bigger than a goat. I vote we get out of here! I, for one, wouldn't get any sleep here, and—"

"What's that?" Howd exclaimed, leaping to his feet. From the wood behind them sounded a heavy, jarring tread. Jerry was fumbling on the ground for his flashlight. He found it, and pressed the button . . . .

Uttering yells of terror, they stood transfixed. Above them, shining white in the torch's beam, hung a face—a woman's face. Its regular, perfectly proportioned features held an expression of mild surprise—it would have been beautiful if . . .



A. ROWLEY HILLIARD

BUT, overwhelmed with horror and disgust, they stared at it — at its awful size . . . The great white brow; the great black pools that were the eyes; the nose, horrible in its bulk . . .

The head was thrice human size.—And now the enormous red lips parted in a smile . . .

With a scream Jerry turned, and fled towards the water. Howd stumbled behind. Into the dinghy they tumbled; and, with wildly splashing oars, drew away from the shore. Back in the cabin of their boat, they stared at each other fixedly in the lantern light.

"Did you see what I saw?" whispered Jerry.

Howd drew his hand across his eyes. "I suppose so," he said in a strained voice.

"A face—woman's face—big?" pursued Jerry who wanted to be sure. Howd merely nodded; his face was pale and set.

"A sort of—sort of—giantess!" said Jerry in an awed tone.

"Bosh!" exclaimed Howd loudly. "There aren't any giants or giantesses—even on mysterious Pacific islands . . . Let's turn in, Jerry. We've been out in the hot sun all day, and we're pretty tired. Maybe we're both crazy!"

"I know we are!" agreed Jerry.

But they got very little sleep that night. Lying stiffly in his bunk, each strove not to picture in his mind the weird vision he had had—an effort not productive of mental repose. Jimmy was first asleep; but when, with the light of day, they turned out on deck, Howd felt as if he had not closed his eyes.

"Gosh," he said ruefully, "what a night! I feel as if I'd had a nightmare . . . "

"Same here!" agreed Jerry. In the cold, clear light of day their outlandish recollections of the adventure ashore seemed no more substantial than dreams. They were b o t h heartily ashamed of the panic which they had suffered.

"Well, there's a good breeze," said Jerry cheerfully. "What do you say we follow along the shore of this here island—take a look at it?"

Howd nodded energetically, and set to work unbinding the mainsail. As a matter of fact, they were both consumed with curiosity regarding the island; and, since they had been on deck, neither had taken his eyes from it . . .

It was a beautiful scene. Beyond the white strip of sandy beach with its line of foaming breakers rose the dense tropical greenery of the jungle, and over that towered the high, forbidding brow of the cliff—sheer and topped with trees.

"Can't see much of the country," commented Howd. Jerry, who was tugging at a rope, did not answer. White and billowing, the mainsail rose into the air. Howd swung the tiller; and, with a pleasant ripple of water at the prow, they were under way.

"Well, I guess I'll get breakfast," said Jerry reluctantly, as if he hated to take his eyes from the shoreline which was slipping silently by. He disappeared into the cabin; and soon the appetising aroma of coffee drifted through the door.

Breakfast finished, they sat smoking and talking comfortably.

"Doesn't change much, does it?" observed Jerry. The scenery was monotonous. Mile after mile, the cliff appeared to be perfectly uniform in height and contour — the strip of beach below it never widened or narrowed. An hour slipped by.

"Must be bigger than I thought," said Jerry.

"It's about ten miles across, according to the map," Howd informed him. "Well, what do you say we get on our course? We're wasting time this way."

"Aw hell!" objected Jerry, "what's a couple of hours? Let's look it over!"

Howd did not need much persuading. His mind, like Jerry's, was constantly reverting to the queer happenings of the night. Of course it was ridiculous! Still, both of them had seen the same thing—or thought they had . . .

"Sandbar ahead!" exclaimed Jerry suddenly.

"Yes," agreed Howd, who had been studying the place for some time, "and I think the cliff indents there. Maybe we'll be able to see inland a ways." He swung the tiller slightly, to get into deeper water. Ten minutes passed. And then, suddenly, they leaped to their feet in astonishment.

AS THEY rounded the promontory they saw that the cliff receded sharply from the shoreline for a stretch, decreasing in height and sheerness. Thus was formed a saucer-like indentation in the coast. And, plainly visible in the center of this, was a town . . . .

"Well, I'm damned!" gasped Jerry. "Our geography ain't so good—huh?—Here we were, right next to civilization, and never suspected it! . . . "

"I wouldn't call it civilization," corrected Howd. "There's no mention of it on the map; and it looks pretty primitive to me! They're nothing but shacks."

"Well, let's put in there, and look it over anyway," cried Jerry. "I ain't seen anything human—except maybe you—for so long, it'll do me good!"

Without objection Howd altered their course.

"We can ask 'em, maybe, if they've got any giants around the place!" grinned Jerry.

"Bunk!" snorted Howd. "You don't want to make a fool of yourself, do you?"

"What do I care? I'll never be back here, and—Hey!" he interrupted himself, "Look at those piers!" He pointed ahead to where three great wharfs stretched out into the water. "—Now what in the devil do they want with those things in this dump?"

"We'll soon find out," replied Howd, guiding their craft towards the nearest one. "—'Tend sail!"

The sail dropped; and with the agility of long experience they both leaped to the dock with ropes in their hands, when the boat drifted along side. Having secured the lines, they faced about . . . .

A man was standing, not fifty feet away, watching them. His legs were apart, his arms were folded across his chest, and on his face was a slight frown.

"Hello!" called Jerry, as he and his companion advanced to meet the other.

"How do you do?" replied the man quietly.

They gaped at him in astonishment. In contrast to his tattered clothing and the wildness of his surroundings, his precise and perfectly modulated English speech was incongruous in the extreme. Hearing their own tongue spoken after so long should have delighted the voyagers, but there was something cold and distant about the voice that damped their spirits. Immediately, Howd felt the necessity of inventing an excuse for their presence there.

"We should like, if possible, to get some supplies," he said.

The man nodded, and turned. "Follow me," he said. "There is a store."

"Mighty polite, ain't he?" grumbled Jerry, as they followed their guide down the long wharf. "I'm goin' to talk to the beg-

gar!" He quickened his pace, and fell into step beside the man.

"Funny island—this!" he observed; and, getting no reply, asked, "Are there many people on it?"

"Save for this small settlement, Neeya is uninhabited," the man replied coldly.

Jerry was not one to be easily discouraged when he was seeking information. "What kind of people live here?" he pursued.

"Human beings," was the short and unsatisfactory answer.

Jerry was not easily angered. He laughed . . . .

"No giants, I suppose?" he questioned lightly.

The other stopped in his tracks, as if shot. When they looked at him in startled surprise, his face, although calm, had gone a dead white. He spoke huskily . . . .

"Remain here, please. I shall return." He walked hurriedly away.

Jerry's mouth hung open. "Well, I'm damned!" he said. "Now I've done it!"

"You seem to have made him mad," said Howd slowly, in a puzzled voice,"—or rather—scared!"

"He looked scared to death!" cried Jerry in agreement. "Gosh, there's something funny about this—mighty funny!"

CHAPTER II.

A Washington Conference

THEY watched the man as he reached the end of the wharf and disappeared among the shacks. In a very few minutes he reappeared with a companion. This latter was smaller than the first; but he walked slightly in advance of the other, and there hung about him a certain indefinable air of authority.

"Good morning," he said pleasantly. "You must be making quite a cruise!"

"Yes," agreed Howd conversationally, "we have sailed around the world—or will have when we reach the United States."

"Well, well, well,"—the other rubbed his hands together briskly—"Around the world by sail—quite a cruise! . . . Now, gentlemen, what can I do to help you?"

"Well," said Howd uncomfortably, "we were running pretty short on supplies, and we thought—"

"Certainly, certainly! If you will just give me your order, I will see that you are supplied immediately."

Howd, taxing his inventiveness to the utmost, managed to give a convincing list; and the little man went off. The other, however, remained standing on the wharf between them and the shore—silent, impassive. The two friends sat down sheepishly on the wharf edge, swinging their feet over the water.

"Something tells me we're not going to see much of this place!" grumbled Jerry.

Howd shook his head. "A more inhospitable community I have never seen!" he grinned ruefully.

Jerry muttered angrily. "Why don't we just walk ashore, and see what they'll do about it?" he suggested.

"Unwise," decided Howd. "We're at a big disadvantage. We don't even know what country this belongs to—if any."

"Gosh!" said Jerry wistfully, "if we didn't have to get home so soon, I'd like to sneak around to the other side of the island, and do some exploring. Because there's something pretty darned queer about the whole business. What do you think?"

Howd pursed his lips judiciously. "Well," he said, "of course settlements like this are are unheard-of; but I always imagined them to be a bit more friendly to the weary traveller!" He smiled. "As to the affair of last night, I think we had better forget it."

"Not so, Howd my boy!" objected Jerry quickly. "You're forgetting the strange reaction of our friend there to the fool question I shot at him!"

Howd looked thoughtful . . .

Within a remarkably short time the small man reappeared at the end of the wharf; and approached, followed by two others who bore a box between them. He greeted the visitors cheerfully in his high-pitched voice . . .

"Well, well—I think we have everything here—yes, all that you need . . . A fine day for sailing!—I wish you *bon voyage*, my young friends!"

The box was deposited on deck. Thanking the other for his trouble, Howd drew out his wallet . The little man held up a hand in protest . . .

"No, no, my young friend—not a penny! . . . Only too glad to help . . . Don't think of it!"

More puzzled than ever, Howd and Jerry clambered aboard; and prepared to depart. The lines were cast off, and the boat swung clear. Two men on the wharf watched them intently, as they got under way. The larger spoke from the corner of his mouth . . .

"What about it, sir?"

The smaller man remained in frowning thought for a full five minutes. Then he appeared to come to a decision . . .

"Watch them closely throughout the day. If they hold their course, let them go . . . They came on a perfectly natural errand . . . Yes—let them go!"

And the tiny ship sailed blithely away, in the general direction of Panama.

THE Capitol Express, behind its huge electric engine, rolled swiftly northwards. Howd, leaning comfortably back in his Pullman chair frowned . . . .

"Darn it, Jerry—I wish you could have kept quiet about that fool Neeya business! We're getting the royal bird from every sheet that got hold of it." In his hand he held a newspaper, folded back to expose an article headed:

YOUTHS CIRCLE GLOBE IN OLD-TIME CRAFT
Two Charleston, S. C. Young Men Sail Around Earth Without Using Motor Once
Howard L. Duncan and Gerald Walsh Jr., Have Many Strange Adventures

There followed a detailed story, almost three columns long. It was a good story, and the "youths" had read it many times during the week they had been home . . . But it was the last paragraph that never failed to annoy Howd:

> It is easily understood that such a series of adventures might stimulate the youthful imagination. Therefore we accept without protest the tale which the adventurers tell of having seen the terrifying face of a female giant, at night on a lonely Pacific isle.

"'Youthful imagination'!" snorted Howd, who was twenty-two.

"Aw, forget it!" advised Jerry. "Forget it; and tell me what we're going to Washington for."

"You know as much as I do about that!" answered Howd. He drew from his pocket a crumpled telegram, and read it for the hundredth time. "It's addressed to both of us, and just says: 'Come to Washington tomorrow May fourteen if possible—wire arrival.'—and it's signed: 'C. Logan, Navy Department'."

"Well, we'll be there in twenty minutes. . "

"Maybe there's a law against sailing around the world!" grinned Jerry. "—Or maybe they want to make us Rear Admirals."

The train pulled in; and they walked slowly up the station platform. "Where do we go from here?" wondered Jerry.

At the gate a man in uniform stepped forward . . . "Mr. Walsh? Mr. Duncan?"—Having received affirmative answers, he nodded briskly. — "Come with me, if you please." They were ushered into a waiting automobile, whirled swiftly through the broad streets, and requested to descend before a large building. Their guide led them up the long stone steps, through high corridors, to a door, on the glass of which was inscribed:

J. Cornelius Logan,
Assistant Secretary,
Navy Dept.

Jerry nudged Howd. "Gee!" he breathed. But Howd, who was busy trying to look unconcerned, paid him no attention. Through the outer office they were hurried, and into a large, pleasant room where two men rose to greet them. The taller came forward . . .

"Mr. Duncan?—Yes! . . And Mr. Walsh! . . . My name is Logan . . . Very glad to know you! This is Dr. Herbert Jules . . . "

They shook hands all around. Howd and Jerry looked with undisguised interest at the shorter man. He was slim and wiry, with direct blue eyes set wide apart in a classically shaped—almost majestic—head. Logan smiled, as he observed their scrutiny of the other . . .

"Yes," he said, "I am sure you will have heard of Dr. Jules whose very famous father

has so recently disappeared. Oddly enough—Well, sit down; and we will go about things in an orderly manner . . . Smoke?"

Howd and Jerry, comfortable in deep leather chairs, accepted cigarettes; and turned attentive eyes to Logan. He drummed thoughtfully on the desk top with his fingertips for a few moments; then swung around to face them . . .

"I understand that you two paid a visit to the island of Neeya during that remarkable cruise of yours?"

"Yes, sir, we did," admitted Howd; he grinned reminiscently. "—A pretty short visit, though! . . . "

"I wish that you would tell us the story of that visit." Logan looked questioningly at Dr. Jules, who nodded agreement.—"Tell everything you can remember, no matter how unimportant it may seem."

Howd looked meaningly at Jerry, as if to say, "This is your job. You started this Neeya business!" Jerry accepted the responsibility with pleasure. He liked to talk; and made a good job of the story.

Logan, now that he had got things started, appeared to lose interest in the proceedings. He leaned back in his chair, and gazed abstractedly out of the window. Dr. Jules, on the other hand, leaned forward in an attitude of strained attention. Occasionally he nodded; more often he frowned. When Jerry had finished, he leaned back with a sigh . . .

A Sudden Revelation

"I THINK you were very fortunate!" he said.

"Fortunate, sir?" repeated Jerry.

"Yes, I think so . . . But no matter! I have some questions which I hope you will be kind enough to answer . . . ."

Howd and Jerry looked at each other in bewilderment. Logan, noticing their discomfiture, smiled. "I see no reason for keeping you in the dark," he said. "Dr. Jules, I know, plans to make you a proposition; and you may as well know how the land lies at the start . . . "

"That is right!" agreed Jules quickly.

"Up to the present," began the other, "this island called Neeya has been of absolutely no importance to anybody. It lies hundreds of miles off the steamship routes. No one ever went there—few people ever heard of it. No nation has ever gone to the trouble to take possession of it; like many of the small Pacific islands, it is unattached.

"However, now that the new Pacific air lines are being laid out, it has sprung into tremendous importance as a site for a refueling base. We need it—and we had planned to quietly attach it. There is not much trouble about those things, you know—if they are handled right . . . " he smiled.

"Then Dr. Jules stepped in! He said that it wasn't as easy as all that. He said many mysterious things." — Logan smiled again, and looked indulgently across at the scientist. "He believes that there is something peculiarly sinister about the island of Neeya . . . "

"There *is* something funny about it, sir!" burst out Jerry excitedly.

Logan laughed. "Still," he said, "even when considering all that, the United States has decided that it dares to go ahead with the project. Acting upon the urgent advice of Dr. Jules, we are going to be diplomatic and send a peaceful envoy to interview — well, we don't know just whom or what he will interview!" He grinned at Jules.

"I must admit that I do not know, either," said Jules good-naturedly, "but I am sure you will not regret going about the matter in that way . . .

"Now Mr. Duncan—and Mr. Walsh—may I crave your indulgence while I straighten out a few points in your story that puzzle me?—Thank you! Did you notice anything peculiar about the settlement which you visited?"

"Well, sir," answered Jerry, " they didn't give us much of a chance to look at it. But it seemed to be a pretty poor place; just a bunch of tumble-down shacks and—"

"Wait!" interrupted Howd. "What about those piers?"

"Piers?" cried Jules.

"Yes," said Jerry, "three long ones — big enough for an ocean liner, almost . . . "

Jules appeared satisfied, and put another question: "You spoke to two men, you say.

Was there anything noticeable about them?"

"Well," said Jerry slowly. "they were dressed in old rags, but somehow or other they seemed to be out of place, or—or—"

"They spoke perfect English," supplied Howd.

"Yes," agreed Jerry, "and they sure were anxious to get rid of us; but there was something more than that, something like—You know, I had a feeling all the time that they were *afraid!*"

"Afraid!" cried Jules in satisfaction. "Yes, yes—they would be afraid . . . "

After waiting vainly for an explanation of this last statement, Howd added a bit of information: "I had the same feeling; and I believe that it began when Walsh here asked them about giants. — He said it as a joke, more than anything else . . . "

"I have been wondering about that business of your seeing the face," interposed Logan, speaking thoughtfully, "and it seems to me that there might be a natural explanation of it—of its size, anyway. You were in the dark. You could see nothing outside of the flashlight beam. You had no perspective; I mean, you could not judge distance. A thing of ordinary size very near to you might appear to be unnaturally large if you thought it was farther away . . .

"Of course it is hard to believe that there was any woman at all near your campfire that night, but that is a simpler theory than this ridiculous idea of giants, I think!"

JULES leaned forward, and spake very seriously: "Logan, do you remember my father's experiment with weasels?"

"As if anybody would ever forget that!" laughed Logan grimly.

"Yes!—Of course you know how he created the great beasts, but I should like to emphasize the point. He found that, by the judicious use of X-rays he could influence the development of an animal species in any direction he pleased—he could control an evolutionary process . . . You may object to the word 'judicious' as I just used it, because his gigantic creatures got out of control, and caused great havoc; but I wish to make clear the process which he used.

"It was based upon the well-known fact that X-rays act upon the animal reproductive functions in this manner; when a parent is treated with the X-ray, any physical or mental peculiarities which it may have tend to be repeated in its offspring. Therefore, if the process is repeated over a series of generations, any chosen peculiarity may be developed to an abnormal extent.

"My father chose size. He worked over a period of years, treating the largest and healthiest of each succeeding brood of his weasels until he had created those great murderous beasts that were the terror of a nation . . . "

Howd and Jerry were listening avidly to this recital; but Logan was obviously restive at the repetition of the old, familiar tale. He cleared his throat . . .

"Yes, Dr. Jules, I guess we all know that story—but I fail to see where it is leading us now. Don't you think—?

Jules held up a restraining hand. "Wait —I have not finished . . . " He drew from his pocket a paper, and tenderly unfolded it. It was yellow with age.—"I have here a copy of a church record, more than a century old—the record of a trial of certain heretics in Germany. I should like to read you an excerpt."

Logan shrugged hopelessly. "If you must, I suppose you must!" he groaned.

"It is short," smiled Jules. "Thus: 'Next was led in one Herr Haufbauer, an Astrologer, who, it was proved, had constructed an Infernal Machine—with which Machine he caught the Invisible Light of the Sun, and projected that Light into the bodies of men—thereby causing many Outlandish Effects of the Devil. The aforesaid Herr Haufbauer was judged Guilty of Heresy and committed to be Burned Alive'."

"Invisible light of the sun!" snorted Logan disgustedly.

"Exactly!" said Jules quickly. "Ether waves! . . . This report errs in two respects. Herr Haufbauer was not an astrologer—he was a scientist; and he was not burned — he escaped."

"Well, well, well!" commented Logan sarcastically.

Jules smiled. He and the other had been friends for years, and any raillery that pass-

ed between them was entirely good-natured. He continued calmly: "What that 'Infernal Machine' was like—or how it was constructed—is a matter of surmise, but we do know what its purpose was . . .

"My father, at one time, did a good deal of investigating into the scientific history of ether waves—suspecting that Roentgen was by no means the first to work with them. And he discovered Herr Haufbauer, who apparently was a scientist of the first water. He was also a man of strange and violent ideas, and many atrocities were laid to his door.

"After his trial he disappeared, and so—strange to say—did a number of other so-called Astrologers. There was talk of a secret society to escape religious persecution. There were many rumors and a good deal of excitement for a while, but the mystery was never cleared up. What is important is that they disappeared, and so"—here Jules made a sudden transition into the present, quite startling and confusing to his audience—"so did my father! . . . "

CHAPTER III.

The Return to Neeya

THEY gaped at him. Howd and Jerry had heard of the disappearance of Dr. Lorian P. Jules. He had been cruising the Pacific in his yacht. One bright morning it was discovered that he was not on board. The generally accepted theory was, of course, that he had fallen overboard during the night . . .

"Your father?" repeated Logan blankly.

Jules spoke in a low, even tone: "Yes . . . He was not idly cruising for recreation. He was on his way to—Neeya . . . Now, *I* am going to Neeya!"

Logan frowned at him. "What is on Neeya, Dr. Jules?" he asked quietly.

"I do not know," answered Jules. Howd and Jerry, who had been sitting tensely on the edge of their chairs, relaxed disappointedly.

"What do you suspect?" prusued Logan. "—Giants? . . . "

Jules spoke grimly: "Men are only animals, after all, Logan. What can be done with weasels—can be done with human beings!"

Logan threw himself back with a snort. "Rats!—Sounds like a nightmare . . . No, that's a little bit too far-fetched for me, thank you! . . ." He paused; but, as Jules said nothing, went on: "Anyway, what of it?—Just for the sake of argument, suppose there were giants on that island. Then suppose we send a battle-ship . . . Who wins—huh?"

Jules did not appear amused. When he spoke, his voice was still hard and grim. "It is not as simple as all that, I fear. I believe that there is something on Neeya that is great and terrible—a Something, the like of which the world has never known—a—"

There came a rap at the door. "Come in!" called Logan, and a clerk entered.

"A note, sir—from the State Department. I thought I had better—"

"Right!" snapped Logan. He took the envelope, and opened it. As he read, a grin overspread his features . . . "My, my—our young diplomats are so sweetly formal!—Listen to this: 'The Honorable Donald A. Adams, United States Envoy to Neeya, is pleased to accept the polite invitation of Dr. Herbert Jules to accompany the latter on board his yacht to the—' Aw hell! You're honored, Doctor!"

Jules nodded with a smile, but when he spoke it was to Howd. "Mr. Duncan, I asked you and your friend to come here for two reasons. First, I wanted to put to you a proposition. Of course you may have connections which make it impossible, but my aim was to ask you if you could accompany me on the trip I am about to make. You would go in the capacity of companions and—er—well, personal bodyguards to me . . . "

"Wow!" said Jerry with explosive suddenness. He and Howd gazed at each other, excitement in their eyes . . .

"Before you make any decision," said Dr. Jules, "let me warn you that there will most certainly be danger—although of what nature, I cannot say."—He hesitated, and then concluded with deadly seriousness, "As

for myself, I rate my chances of ever returning at about half . . . ."

"Wow!" repeated Jerry.

"I think we'll chance it, sir," said Howd eagerly.

"Fine!" said Jules heartily. "Of course you will be well paid, and—"

"Paid?" cried Jerry, "Forget it!"

ACROSS a great, blue expanse of water drove gracefully a white vessel. Under the glaring sun its sides glistened and its brass-work shone brilliantly. And under an awning on the rear deck there inclined comfortably in wicker chairs Howard Duncan and his good friend, Gerald Walsh, Jr. Both were enjoying themselves.

"This beats the sloop in a good many ways," commented Jerry, with a contented yawn. Howd was lying back with closed eyes. His silence gave assent. Jerry yawned again; and then, noting a white-suited figure leaning over the rail amidships, drawled lazily, "What do you think of our Honorable Envoy?"

Howd opened one eye, and regarded his friend with amusement. "What do *you* think of him?" he hedged.

"Well," said Jerry slowly, "it's hard to say. . . . I always pictured these here diplomats—even young ones—as sort of pleasant, likeable chaps. Thought it was their business. Now take our friend here; he—"

"Hold it!" warned Howd. "He's comin' this way."

The Hon. Donald A. Adams was strolling along the deck towards them. A yachting cap was set at a jaunty angle on his head, but his step was not jaunty. It was rather dignified. He nodded to them abruptly.

"Well, you boys are having a pretty easy time of it!" he laughed.

"Yup!" agreed Jerry. How'd eyes closed again.

"Slack times for body-guards," chuckled Adams. "But perhaps things will pick up tomorrow—when we get among the giants!" He laughed loudly.—"A couple of hopeful young giant-killers! Ha, ha, ha. . . ."

"Ha, ha," said Jerry politely. The other strolled on. . . . "Funny fella!" grumbled Jerry. "So us boys are having a pretty easy time of it! I'd like to know what the devil he thinks he's doin'. . . ."

"My dear boy," murmured Howd reprovingly, "you must not forget the responsibilities of our honorable friend. For all practical purposes he *is* the United States of America. That undoubtedly weighs upon him."

"Well, I wish the 'United States of America' would take off that hat," said Jerry unsympathetically. There was a long interval of silence before he spoke again. Then:

"Have you seen Dr. Jules lately?"

"Not for two days," answered Howd, showing signs of interest.

"Neither have I! Say, he hasn't disappeared, has he?"

"Oh, no!" reassured Howd, "he's in his cabin. I asked the steward about an hour ago. . . . But I would like to see him with my own eyes, now and then. . . ."

Jerry agreed that he would, also.

But they did not see Dr. Jules until the next morning when leaning over the bow, they watched a gray smudge on the horizon take definite shape and color, and steadily grow larger until it was easily recognizable as Neeya—lying green and beautiful on the water. Dr. Jules came up behind them, and put a hand on the shoulder of each.

"You fellows will soon be meeting some old friends, I imagine," he greeted them pleasantly.

"Yes sir, I guess we will," replied Jerry in a doubtful tone.

"You are worried about your welcome?" smiled Jules. "Well, don't pay too much attention to those fellows. They are quite unimportant."

"Unimportant, sir?"

"Yes—if my guess is right. . . . Oh! by the way, something occurred to me about that business you had with them which might be of interest. As I understand it, you gave the man an order for supplies?"

"Why, yes sir—we did."

"Can you remember approximately how many items there were in that order?"

"About a dozen, I'd say," answered Jerry. "Howd got panicky, and ordered a lot of stuff we never did use up!"

"And there were specific amounts of each article?"

"Yes."

"When you received the order, was it correct?"

"Why sure! Wasn't it, Howd?"

"Yes, I think so," said Howd wonderingly. "Of course, I was sort of flustered, and couldn't remember exactly what I had asked for; but everything I *could* remember was there in the right amount. . . . Yes."

Jules nodded thoughtfully. "It struck me as interesting. Do you see anything suggestive about it?"

By-Play

HOWD and Jerry pondered over the matter in silence, while Jules watched the island which they were approaching. The indentation of the cliff was now easily seen, and soon the shacks and wharfs of the settlement were visible. In less than a quarter of an hour, they would be there. . . .

"The man made no list or notation of any kind?" questioned Jules helpfully. Howd started. . . .

"No sir, he didn't!" he cried, in dawning comprehension.

"Now, although it may not sound particularly difficult at first," said Jules slowly, "I think you will agree with me, upon consideration, that the man's memory must be quite remarkable!" They looked at him, puzzled. "Suppose I were to repeat to you a list of twelve different amounts of twelve different articles. How much of it do you think you could keep in your head?"

"About half, if I was lucky!" said Jerry.

"Exactly—and I could do no better."

"But what—what—" began Howd in confusion. He failed to understand the drift of the conversation; and Jules' next words did not enlighten him to any great extent.

"I believe that the man was a Failure, or the Son of a Failure," said Jules cryptically; and turned to greet the Hon. Donald Adams who was joining the group. "Good morning!"

Adams dispensed with greetings. "That the place?" he inquired, looking ahead.

"That is Neeya," Jules assured him.

The envoy looked slightly annoyed. "Doesn't amount to much, does it?"

"One never knows," answered Jules cryptically. He turned, and called to the Captain, who stood on the bridge behind and above them: "Might as well use one of the piers, McCarthy. Plenty of room!"

The engines were now turning at half speed as they nosed in towards the nearest wharf. Upon it stood a single man whose stolid attitude Howd and Jerry instantly recognized. "Same old reception committee of one!" observed Jerry. "Must be his job. . . ."

"I imagine it is," agreed Dr. Jules.

The man did not move as the yacht churned along side and sailors leaped to the dock to make fast the ropes. Impassively he watched them haul the gang-plank into place. Only when Jules and Adams disembarked, closely followed by Howd and Jerry, did he speak—two flat, impersonal words:

"Your business?"

The Hon. Donald Adams was not one to waste time. He stepped forward. "I am here in the capacity of special envoy from the United States of America. Take me to your ruler."

"Ruler?" the man's face went blank.

Adams made an impatient gesture. "To someone in authority, then," he amended.

The man seemed to consider. Finally: "Follow me," he said. The four walked behind him along the wharf. Before they had reached land, however, another figure appeared, coming to meet them. Howd and Jerry quickly recognized the little man whom they had been so recently discussing. At a questioning glance from Jules, Howd nodded—to convey this information.

Their guide quickened his pace to meet the other, and a whispered conversation was held. Then the little man came forward, beaming a welcome. . . .

"Good morning, gentlemen! A beautiful ship you have. . . . Yes, yes—beautiful! he rubbed his hands together feverishly—"Now, tell me how I can serve you, gentlemen!"

ADAMS spoke with dignity: "I represent the United States Government. I have

business with the ruler of this island." Jerry nudged Howd, and winked. Howd frowned at him reprovingly. Jules' face was expressionless.

The little man smiled deprecatingly. "Why sir, I am sorry to say that we have no properly constituted government in our little community here. . . . We are just a small collection of lonely souls in a very lonely place; and we have no need of—er, what shall I say?—of organization or authority."

Suddenly Jules spoke, silencing Adams with a gesture: "Ah then, we have come in vain! Well, the matter was of slight importance. . . . What will please us most is the opportunity to stretch our legs on dry land once more. My, this is a lovely spot—Delightful!"

Again Adams started to speak, but Jules shook his head quickly, and frowned. The little man did not appear to notice this byplay. He spoke heartily: "I hope and trust that you will be comfortable in our humble village. . . . You are welcome—very welcome!"

"We thank you sincerely," answered Jules, watching the other narrowly, "and I trust that we shall be very little trouble. . . . We are all very tired of being cooped up on shipboard, and had hoped to take a little jaunt into the interior of the island. . . ."

The eyelids of his listener flickered slightly, but when he spoke his voice was calm—faintly regretful: "How unfortunate!—I am sorry to have to tell you that the interior of this island is most unpleasant. Yes, yes—most unpleasant!—A tumbled waste of rocks, jungle, and swamp—quite uninhabitable, almost impassable. You would not enjoy such a trip. . . . But our poor community is entirely at your service—entirely!"

Jules smiled ruefully. "Well, well—that is a disappointment; but I am sure that we shall be amply comforted by your kind hospitality. . . ."

And so, after a few additional polite exchanges, the four retired to the yacht for luncheon. The envoy was fretting visibly.

"What's all this nonsense about walking trips to the interior?" he fumed.

"Mr. Adams," said Jules patiently, "it is necessary to be circumspect in dealing with people who are deliberately trying to mislead you—that is, when you have no hold over them and no threat to offer. . . ."

"No threat to offer!" Adams exclaimed. "I think a little word about a few Marines dropping in for a visit would be enough of a threat!"

"That would be a grave mistake," said Jules seriously. "Moreover, you are wasting your time talking to these people. They are no more than slaves. . . ."

"Slaves!" cried Adam. "Slaves of whom—or what?"

"That we must discover!"

"How? Where?"

"In the interior."

Adams leaped to his feet. "Lying to us, are they?. . . . Hum!" He made an impatient gesture. "Well, why don't we push on—into the interior?"

"That is precisely what we will do—tonight! If we tried it openly, we would not get far beyond the outskirts of the village. I am certain of that!"

CHAPTER IV.

A Terrible Blunder

LATE that night a small electric launch was lowered from the yacht's side. Run by a sailor, it circled widely, finally touching the shore at a point a mile or more from the village. During the trip Jules gave low-voiced directions.

"We must follow along the foot of the cliff where it recedes from the shoreline back of the village. There must be no talking and no lights until we have got around the village. Thank goodness these people do not keep dogs!. . . ."

They stepped ashore, a party of five—Jules, Adams, Howd, Jerry, and Captain McCarthy of the yacht. The launch swung silently away, and they set out.

The going was rough along the foot of the cliff, and they were forced to proceed at a snail's pace to avoid making noise. It was very dark, although a faint glow in the east predicted the rise of the moon. . . .

Bumped by rocks, scratched and torn by branches, they struggled on for an hour.

Then, suddenly, the cliff opened away to their right; and they stepped out upon a smooth, hard surface. . . . They peered questioningly into each others' faces.

"Just as I suspected," muttered Dr. Jules. "There is a break in the cliff here and a road running inland. We are directly behind the village." As if to illustrate the truth of his words the moon rose out of the sea, outlining against its brilliant surface the ugly, tumbled roofs of the shacks.

The party turned their backs to it; and set out, up the road. It was a steadily rising incline; and as they went on the tall cliffs closed in on each side, making their path a species of defile or canyon wherein the faint, white moonlight was whipped and laced by great, wavering, black shadows.

Howd and Jerry were walking a few feet in advance of the other three. "Wonder what in the dickens this road is for?" muttered Jerry, his eyes darting uneasily to right and left.

"Now don't start asking me questions!" growled Howd. "Ask Dr. Jules. He knows a lot more than he says, if you want to know what I think. . . ."

"You bet he does!" agreed Jerry. "Did you hear him teaching our young diplomat his business?. . . . But I don't think even Jules knows what we're walkin' into now."

"Listen!" hissed Howd. A fitful wind was rustling and moaning in the tall trees, but above that rose another sound—a far-off. insistent hum. The party drew together.

"Is that the same sound you told me about?" questioned Jules tensely.

"Yes sir," answered Jerry. "What do you make of it?"

"It sounds to me like—"

Suddenly came a choking gasp from Adams. "Good God! Look!"

At the point where they had stopped there was a clump of tall trees over against the foot of the cliff. The spot was in black shadow. And as they watched, a lofty black shadow detached itself from the darkness of the trees.

The five drew their guns, and stood stiffly waiting—for the thing was moving towards them—a great Shape, towering above them. Then, suddenly, it moved into the moonlight and they saw. . . .

With a scream Adams cowered backwards. He raised his gun. . . .

"Don't!" shouted Jules desperately—but he was too late. Two shots rang out. And with a horrid bellow of pain the Man before them tottered, crumpled forwards, and crashed to earth. Howd, snatching Jules by the arm, leaped clear in the nick of time.

The great figure thrashed and writhed on the roadway. . . .

"Stand back!" shouted Dr. Jules, "—out of reach!"

Horrified, they stood; and watched the death agonies of the creature. The gigantic arms and legs flailed the ground; the head was thrown far back, the long black hair sweeping the earth.

"My God, it's *human!*" howled McCarthy.

With a deep groan that shook the earth beneath their feet, the creature stiffened, and grew still.

"YES Captain, it was human," answered Jules in a low, strained voice. "You are a medical man. See what you can do for it. . . ."

"Just as you say sir!" muttered Captain McCarthy. He advanced warily towards the sprawled creature. The others closed in behind him, gazing with a mixture of awe and terror at the thing before them. It was a man—there could be no doubt of that—naked except for a loin cloth; and easily fifteen feet from head to heel.

McCarthy finished a quick examination. "Dead," he pronounced. "Bullet entered under chin—went up into brain. . . ." He looked at Adams. "That was a good shot, sir. This thing was a mighty hard thing to kill!"

The fear had passed from Adams' face. He looked pleased. "I've hunted big game in Africa. . . ." he began, when Jules swung around to face him. . . .

"You fool!" he hissed; "You have committed an irreparable blunder. We are murderers—and will be treated as such!"

"It's not murder to kill a monster like

that!" retorted Adams, his face white with anger.

"We won't dispute over terms," snapped Jules. "Time is too precious. There is no hope for us if we are caught. We must try to get to the yacht. . . . Come!" He set off down the road, at a fast trot. The others stumbled behind.

Howd and Jerry ran elbow to elbow, in the rear of the party. "They're comin'!" gasped Jerry.

"I hear 'em!" panted Howd; and, shouting a warning, he broke into a run. Behind them sounded a thunder of heavy, jarring treads—growing ever nearer, until the earth around them shook.

"We'll never make it, sir!" cried McCarthy desperately.

"Hide—" ordered Jules tersely, "—and don't shoot!" He darted into the shadows at the side of the road.

But, even as he spoke, there burst upon them a blinding, glaring light—and concealment was impossible. Howd faced about, his jaw set, his limbs cold with fear. He could see nothing except the bright light; he could hear a thunderous muttering above him. . . .

From behind him came another scream—Adams. Suddenly out of the air shot a great, long thing; and he was gripped crushingly around the waist. The next moment he was kicking and struggling above the ground. . . .

Then came Jules' voice, calm and cool: "What will you do with us?"

"KILLERS!"—the word boomed out of the air; and Howd felt his fear giving way to astonishment and wonder. He never would have thought of talking to the things.

"What will you do with us?" Jules repeated evenly. This time there was no answer. Howd felt himself being jerked rhythmically up and down, and knew that he was being carried. The man dangled him at arm's length, and often—too often—he was bumped heavily against the great, swinging leg. The hand around his waist hurt horribly. His head hung down, the temples throbbing painfully. He could see nothing.

How long the journey lasted he could not tell. He was quickly reduced to a dull half-consciousness by the exhausting strain of his position. He thought of his companions, and imagined that they must be in the same predicament as himself. The air was full of the thunder of heavy footsteps. . . .

With a sudden shock he felt himself set upon his feet. He staggered, and sank to his knees; but struggled up again. Before him was an enormous lighted doorway; and, guessing what was expected of him, he walked uncertainly in.

The Punishment

THERE, in a bright, high-ceilinged room, he found Dr. Jules and Captain McCarthy. Jules was straightening his clothes; McCarthy was cursing steadily under his breath. Through the door stumbled Adams, and behind him, Jerry. The door closed.

Across the room, beside a second door, was a giant man; who stood with folded arms, and gazed down at them impassively. The five drew together helplessly, their fearful eyes riveted upon the human monster before them. Suddenly it spoke. . . .

"A-7 WILL SEE YOU!"—the words reverberated thunderously in the room. The inner door swung silently open. . . .

"ENTER!"

They stepped forward hesitantly, fearful of what strange creature might be awaiting them beyond the door. When they crossed the threshold, all stopped short in blank surprise.

At a desk, across the room, sat a small man, writing. He did not look up, as the door closed behind them. He appeared to be a very ordinary little man—pale of face, clothed in a single, flowing garment, and intensely preoccupied with his work. . . .

Then he looked up.

To Howd it seemed as though he had received a heavy blow upon the forehead; suddenly he felt very weak. The man's eyes were upon him—and the gaze of those eyes was a terrible, almost physical, force. Howd felt paralyzed—powerless to look away, fascinated by those steady, cold eyes in that cold, white face. He trembled. . . . The man's pale lips moved. . . .

"Welcome, Herbert Jules!"—the voice

was low and silky—"Your expected visit has had an unpropitious start!"

"Yes—" began Jules, but the smooth voice cut him short. . . .

"Do not speak, please! Your regrets are immaterial—unimportant. B-25 is dead! You are responsible for his death. . . ."

At this, both Howd and Jerry made involuntary gestures of protest. Jerry attempted to speak, but the man raised a slim, white hand. . . .

"I understand the circumstances, thank you! I know who fired the shot. But on Neeya we look beneath first causes. Mr. Adams committed an error from ignorance, as a result of Dr. Jules' negligence. Ignorance is excusable—but negligence. . . . Wait—I will show you!"

Behind them, the door swung open; and a giant towered in the opening. It stepped into the room, driving before it a small, trembling man, who stumbled to the center of the room, and stood still, with bowed head. The figure at the desk spoke softly.

"C-1, you have erred!"

The little man made no motion. The other detached from a bracket on the desk a small instrument resembling a flash-light, to which was attached a cord connecting it with a plug in the wall. This, he directed carefully. They saw a slim finger depress a lever. . . .

The man before them started violently, and sank into a crumpled heap on the floor. The giant picked it up by one leg; and, turning, stepped from the room.

"Gee!" hissed Jerry; and Howd nodded pallidly, for he too had recognized their acquaintance of the village.

Then the cold, even voice riveted their attention once more upon the figure behind the desk: "The death of B-25 was partially his fault. . . ." The thin upper lip curled slightly. "He was afraid to die, as are all Failures—and ordinary men. . . ."

There was silence in the room.

Suddenly, convulsively, Adams stepped forward. His face was red; his fists clenched. He was struggling between fear and anger. The man behind the desk checked his speech. The sneer had not faded from his lips. . . .

"Mr. Adams, you are about to mention the business which has brought you here. You are about to say, I believe, that the United States of America, in its illimitable benignity, plans to take our small island under its protecting wing. . . ."

Adams, stung into fury by the sarcasm, burst into a torrent of words, despite the other's restraining hand: "You would be wiser, sir—whoever you are—to adopt a more conciliatory attitude towards—towards—"

"—Towards yourself, who are the representative of that great Power, which—if angered—will proceed to vent upon our benighted island the wrath of its offended majesty!"—the words cut in upon Adams clumsy speech like a sharp knife. "Listen to me!" he commanded, as Adams again opened his mouth. "Your understanding is clouded by a mistaken conception of the importance of size. To you, great size means great power."

The sneer had gone, now, from his face. He spoke patiently—almost wearily—like one addressing a child. "Try to understand. Just as there is more power in a tiny grain of radium than in the largest steam boiler, so is there more power in Neeya than in your extensive and populous country. More power for good, or—for evil!. . . ."

ADAMS laughed loudly, harshly. The words of the other had only succeeded in turning all his fear to anger and scorn. He took two quick steps forward: "Now you listen to—"

The man behind the desk half rose. His brows drew together; his eyes dilated; his mouth became a straight, hard line. Adams stepped back, and raised an arm, as if to ward off a blow.

"Please understand," A-7 hissed, "that it is unnecessary for you to speak. I know—" he stopped suddenly, and a look of surprise flitted across his face. It was impossible for the others to guess what had made the change in him. When he spoke again his tone was awed, subdued:

"A-1 will speak to you!"

There was silence in the room. The man

behind the desk became rigid and motionless. The others, bewildered, did not know what to expect; but there was a certain tenseness in the air that kept them quiet—waiting. . .

"Mr. Adams will return to Washington."

The Voice filled the room; yet it was smooth and soft. . . .

"He will start tonight; and, upon his arrival, will report the failure of his mission."

There was in the tone of the voice a cold, confident finality that left no doubt in the minds of its hearers concerning the truth of the words it uttered. It was more than a command; it was a simple statement of fact. . . .

"Dr. Jules will remain in Neeya."

Jules inclined his head slightly. He showed no sign of emotion.

"Mr. Duncan and Mr. Walsh previously visited Neeya, and were allowed to depart. They have been foolish enough to return. They shall not depart again!"

The man behind the desk sank back into his chair. "That is all," he said. "A-1 has spoken!"

Jules turned to the captain of the yacht: "McCarthy, you will return to the ship with Mr. Adams. Start tonight, and make all possible speed to Washington."

Captain McCarthy, a stocky man, thrust out his lower jaw, and shook his head vigorously. "—And leave you here, sir? No, not I!"

"You will serve us best by going, Captain," said Jules earnestly. "There is no help for it!"

McCarthy grumbled and muttered to himself. Then: "If that's the case, I'll go; but I'm comin' back." He turned belligerently to the man behind the desk. "An' if I don't find Dr. Jules, there'll be hell to pay!"

The other paid him no attention. His cold eyes were fixed on Jules who had drawn Adams aside, and was speaking to him in low tones. . . .

"You will hold no conversation with Mr. Adams, if you please, Dr. Jules!"

Jules stepped back quietly; but Adams flushed, and spoke with concentrated venom: "I warn you, sir—you will be sorry for this highhandedness. You—"

"Go!" said the other softly. "You will be conducted to your ship." The door swung open.

"You will pay—"

"Go!"

With an angry gesture Adams faced about, and stamped from the room, closely followed by McCarthy. The great door closed behind them, with a metallic clang. . . .

Jules and his two companions turned, to see the man behind the desk holding in his hands the thing that looked like a flashlight.

"What are you going to do?"—Jules' voice was toneless.

The man did not answer. He appeared to be making some adjustment on the instrument. Then he raised it. . . .

"Come on Howd!"—Jerry dashed forward, only to stiffen and crash heavily to the floor. Howd fell almost on top of him.

Behind them, Dr. Jules sank down more quietly.

CHAPTER V.

Jules Explains

HOWD awoke, with a shock, to find someone shaking him. He started up wildly—then recognized Jerry. He stuttered wordlessly, complete bewilderment in his face.

"Surprised to be alive?" grinned Jerry. "So was I! I just came to a minute ago."

Howd struggled to a sitting position, and looked around him. There were two other beds in the room beside his own. One was occupied.

"What—what about Dr. Jules?" he asked fearfully.

"Oh, he's all right. Just sleeping. I didn't know whether to wake him or not."

"Think we'd better," said Howd. "He might be glad to know he's alive. I am!"

"There's something in that!" agreed Jerry. He shook Jules gently by the shoulder. The latter opened his eyes.

"How do you feel, Doctor?"

Jules smiled up at him. "Tremendously relieved!" he chuckled. "Much the same as you do, I imagine!" He sat up. "Well, they are more thoughtful of our comfort than I should have expected. This is quite pleas-

ant! I wonder if we shall have anything to eat."

"There is something over here on the table," said Jerry, "that might be food—or might not. I don't know. There isn't much of it—whatever it is!"

Jules got to his feet; and walked over to where, on a table, reposed a small bowl containing a brown, pasty substance. There appeared to be less than half a pint of it. Beside it were three saucers with spoons.

"Some sort of concentrated nourishment," said Jules thoughtfully. "Quite unpleasant, probably."

"Well, if it's nourishment, I vote we go ahead!" said Jerry vigorously. "I need it!"

They divided the stuff, and tasted it experimentally.

"Ugh!" grunted Howd.

"Like taking medicine," said Jerry. "I wonder if they eat this all the time. They must have hardened appetites."

"Probably they do," said Jules. "I am afraid that we shall have to get used to it since we may be here some time!"

They looked at him quickly. For the moment they had forgotten their position; but now the events of the previous night came back to them.

"What are we going to do, sir?" asked Howd bluntly.

"Do?"—Jules drew his hand slowly across his forehead, and remained for a while in frowning silence. When he spoke again, his voice was low and strained: "I know nothing that we can do. . . . I would beg your forgiveness for bringing you here, but my rashness is unforgivable. . . ."

"You don't understand us very well, Doctor, if you think we blame you for that!" burst out Jerry impulsively. "You warned us in the beginning, and everything is all square. . . .

"But if you could tell us what it is all about, we sure would appreciate that!" he concluded, grinning. Howd nodded vigorously.

"Yes," nodded Jules, "I will tell you all I know and a good deal that I surmise. Since last night I am certain about many things that I only guessed at before. . . . We may as well make ourselves comfortable." They sat upon the beds.

"The first thing to realize," he began slowly, "is that we are in the midst of a civilization, the like of which the world has never known. We are among beings who are something different from—or more than—human. You of course noted a strangeness in the one we saw last night. . . .?"

"Strangeness!" said Jerry, shivering slightly, "he scared me to death! Something about his eyes—I don't know. . . ."

"Huh?" Jerry's face was blank.

"TO him, we were no more than children. . . . Just as we are smaller physically than the giants which you have seen, so are we smaller mentally than that man! And he is one of many."

Jerry shrugged hopelessly. "You'll have to make it simpler than that. I don't get you!"

"Put it this way," said Jules. "The mind of man is, as far as we know, capable of unlimited development. Since man's first appearance on the earth, his mental capacity has been gradually increasing with the years. . . . How? You know as well as I do: through natural selection—the survival of the fittest, the most intelligent.

"But the natural process, although sure, is very, very slow. . . . Why? Because heredity is an imperfect, uncertain instrument. A highly developed parent may have very inferior offspring. Heredity is the weak link in the evolutionary chain. Nature stumbles along through the centuries; and progress is hit-or-miss, slow, and painfully clumsy when observed in a scientific light.

"The man who founded the civilization of Neeya believed that he could improve upon Nature's work. He had discovered a way to make heredity positive in action—with X-rays. He founded a race dedicated to a single, strange ideal: Man developing his own powers by scientific treatment of himself!"

"You mean they treat themselves with X-rays?" asked Howd doubtfully.

"With that, or something nearly like it—yes."

Howd shook his head sadly. "I guess I'm dumb. I don't see how it works yet."

"Here is a simple parallel," said Jules crisply. "Take a four-legged hen; expose it to the rays; it will produce any number of four-legged chickens. Take a man—or woman—with a special type brain; treat him; his children will be born with brains closely resembling his. It sounds weird, but it is simple truth!

"Now! Take only the best of the children; treat them with the ray; destroy the others. Do you see what is going to happen if that process is repeated over a series of generations?"

"Do you mean they just kill the children they don't want?" gasped Howd.

"Certainly—without hesitation!"

"Murder?"

"That depends on how you look at it. Their whole life plan is different from ours. Their standards of right and wrong are not the same. It is wrong to be stupid. To make a mistake is to commit a crime. You saw what happened to that man last night! His duty was to keep us from penetrating into the island. He failed, and—he died! That is their way."

"But he was different from the other," objected Jerry.

"Yes. The people in the settlement down on the shore are merely throw-offs of the process. Failures, who have been allowed to live because they perform the useful purpose of putting off chance visitors to the island and receiving shipments of goods that may be needed."

"But what killed him?" asked Howd. "And if he was killed, why weren't we?"

"Simple electrocution," answered Jules. "The power was conducted along a short-wave radio beam instead of a wire. I suppose you noticed that the floor was of metal. We were not killed because the power was cut down to the point where it merely shocked us into unconsciousness. They have some reason for keeping us alive. . . ."

Jerry drew a long breath. "That's nice!" he murmured.

"But what about the giant?" put in Howd.

"An experiment of secondary importance; but quite useful, I should imagine. They have been developed for physical size rather than mental capacity. They are probably quite stupid. They do the work—the manual labor—of the community. They are slaves, in a sense; but are doubtless entirely contented."

Jerry laughed. "Well Dr. Jules, you sure do make it all sound very simple and reasonable and harmless; but what about us? Why are they keeping us locked up?"

"Because we know too much," answered Jules quietly. "We have seen their giants; we have some small conception of their power. If the world knew what we know, Neeya could not continue with its work unmolested; for the strange, abnormal civilization of Neeya constitutes a definite menace to the peoples of the earth. Secrecy, therefore, is an essential part of their program. . . ."

"Then why did they let Adams go?" objected Howd.

Pursued!

JULES started violently. "Good Lord! I had not thought of it in that light. I had not realized the significance. . . ."—his voice trailed off into silence; and he sat rigidly still, his face a picture of blank amazement. Howd and Jerry, observing his discomfiture, forbore to question him further. They looked around the room.

It was bare of furnishings except for the table and beds. Two windows of ground glass admitted light—a light which appeared to be dimming steadily.

"My God!"

Startled, they gazed at Jules. His face was a white mask.

"Why, what's the matter, sir?"

"Now I see it!" hissed Jules. "The time has come—the time when they are ready to say 'Hands off!' to the world—when they must keep their secret no longer! That is why they allowed Adams to leave. They know as well as you and I know what he will do. . . ."

"I was sort of counting on him to get us out of this mess," said Jerry.

Jules laughed bitterly. "What do you think he will do?" he countered.

"Well, when he gets back, and tells how

he's been insulted, I don't think it'll be long before we'll have a battleship—or at least a cruiser—down here. . . . Especially when they've got the excuse of us bein' held prisoners. . . ."

"Yes, yes—that is a damnable certainty. And they are waiting for it! If they cannot remain unknown to the world, they have only one alternative: they must frighten the world.

"That ship, and every man on it, will be made a terrible sacrifice to the future independence of Neeya!"

"Sacrifice!" cried Jerry.

"It will be utterly, ruthlessly destroyed! They will not—they cannot—adopt a middle course. Mankind will not willingly tolerate them—so mankind must fear them. . . . Don't you see the hopeless certainty of it?"

"Maybe so," muttered Howd, "but how can they destroy a battleship?"

"How?"—Jules made an impatient gesture. "Does it matter how? Be sure that they can do it! They are horribly, coldly reasonable in all things. They do not make mistakes; they do not lay themselves open to danger.

"Why, a weapon such as that you saw last night—of larger design—could heat a battleship to a mass of molten metal in ten minutes! Nothing could resist the terrible electric power which they can throw into that invisible ray. That humming sound you have so often heard comes from dynamos. You should have guessed that. Great dynamos. What runs them, I do not know, but—but—oh, God, what does it matter?

"Hundreds of men will meet their deaths—and we are powerless to warn them—helpless. . . ." He buried his face in his hands.

Jerry leaped to his feet. "Then there's only one thing to do!" he said loudly. "One of us has got to make a break for it!"

Jules looked up at him suddenly from haggard eyes. "Are you mad?"

Jerry shrugged. "No harm in trying! I think Howd and I would have the best chance, together." He looked questioningly at Howd, who nodded quickly.

"THERE is death in trying," said Jules tonelessly. "Don't you understand that you cannot deceive these people? You must have realized during last night's conversation that they read your thoughts without effort. . . ."

"Then we've got to go now—before they get a chance!" said Howd, with decision.

"But you cannot leave the island—and the ship may not come for weeks—months—we have no way of knowing. . . ."

"Well, we'll—"

"Stop!" cried Jules suddenly. "If you are determined on this project, do not tell me a single one of your thoughts or plans. I shall remain here. I should only be a hindrance to you if I went. I want to know nothing—absolutely nothing!"

Howd and Jerry looked at him in bewilderment. Then their faces lighted with understanding. They retired to a corner, and spoke together in low tones.

"One thing!" said Jules. "The situation might be saved if the ship were to offer no offensive, and were to depart within a few hours of its arrival. Remember that!"

The windows were now black, and light came to the room from a globe in the ceiling. Howd and Jerry finished their conversation; and approached the beds, from which they stripped the clothes. Silently Jules helped them tie together sheets and blankets. Together, they lifted one of the beds to the nearest window. Jerry tied an end of the crude rope to the bedstead, and stood with it coiled in his hands. Howd looked around the room; then went over, and picked up the light table by two of its legs.

"Goodbye, Doctor—see you later!" he said, and sent it crashing through the window. Jerry dropped the rope, and vaulted over the sill. It was less than six feet to the ground. By the time Howd landed with a thud beside him, Jerry had made a quick survey of the sky. . . .

"East!" he hissed, and broke into a run.

They did not look back. They sprinted over a large, open field which seemed to be planted with grain of some sort. The night was very dark; moonrise was still an hour off.

Their feet padded noiselessly in the soft earth. They ran, breathing deeply, heads

back, knees high—without slacking—on and on. . . .

A black mass rose before them—woods. They increased the pace, and held it desperately until they reached the trees. They cast themselves down in the shelter, the blood pounding in their ears.

"Gosh!" panted Jerry, "—musta covered two miles!"

"Don't know why we ran so damn' hard," gasped Howd. "It's dark enough!"

"Feel better in the woods," commented Jerry. "Moon might come up—or they might turn a light on us!. . . . Well—where away?"

"Straight through to the cliff. Gotta climb down it, somehow. Then—well, I'm glad we got our guns!"

"Mighty funny we got 'em, too!"—Jerry shook his head. "I don't see why they happened to let us keep 'em. . . ."

"Aw, they ain't scared of simple, ordinary guns. They got—"

"Sshh!"

HALF-SEEN, half-heard—something was moving in the field! They turned, and plunged into the underbrush. . . .

The going was hard. Trees and bushes grew thickly, interlaced with vines. The prostrate trunks of fallen trees made footing difficult. They struggled on—hands outstretched before them, feet raised high. The noise of their progress seemed fearfully loud.

Hours passed—hours of painful, exhausting effort. They dared not stop again. Suddenly, cold fear gripped Howd. . . .

"Do you think we're going straight?" he gasped.

"God, I hope so!" was all that Jerry could say. It was impossible to see the stars—or any part of the sky—through the heavy foliage.

And then, at last, their eyes caught a dim radiance over to their left. "Moon!" breathed Jerry thankfully; and they turned in that direction. The light grew brighter; and, suddenly, they were out of the woods. Howd sat down violently. . . .

"Gosh, I almost walked over!" he said ruefully. Jerry laughed.

Before them stretched the sea, cut by a silvery, gleaming path of moonlight. Directly below them, down the sheer face of the cliffs, the tops of tall trees waved gently.

"Can't climb down here," said Jerry reflectively. "Got to hunt a place. . . . Which way is the village?"

"To the right, I think—south," decided Howd, craning his neck in that direction. "Let's rest a few minutes. I'm tuckered!"

Behind them, in the woods, a twig snapped.

"So'm I," said Jerry. "—What's that?"

It was the sound of dry leaves swishing along the ground. "Something's coming!" breathed Howd. They crouched together on the cliff's edge, watching tensely the dark line of trees. And then their fascinated eyes were riveted by a sight which they had once seen before. . . .

White in the moonlight, gleamed the huge face of a woman. The great eyes were fixed upon them. The red lips drew back from cruel teeth in a smile of infinite menace and hate.

Paralyzed, they watched her advance upon them, a tremendous figure of passion—heard the great voice, full and triumphant:

"You kill my man! I see you!. . . . All day long I watch the house where they put you. I see you come out. I come behind you. . . .

"You kill my man—now I kill you!"

CHAPTER VI.

Jules Refuses

"SIT down, please, Herbert Jules. We must talk!" The voice of A-7 was smoothly pleasant. Jules took the chair across the desk from the other. "Since it will make the conversation more pleasant for you, I beg that you will speak in your turn; although, as you know, it is unnecessary."

Jules inclined his head. "Thank you—I should certainly be more comfortable."

"Your two young friends have run away—a quite useless maneuver, surely. Why did you not dissuade them from it?"

Jules did not answer. The other looked at him sharply.

"Ah! You know more than I thought. You are a clever man, Jules. . . . But they will fail. They cannot get into communication with the ship. They cannot leave the island. . . ."

As he spoke, he eyed Jules intently. The latter remained silent.

"And you know nothing of their plans! Yes, you are a very clever man. . . .

"Well, enough of that matter! It is unimportant. We have serious things to discuss. . . . You are also a very patient man, Dr. Jules." Jules looked up quickly. The other nodded.

"Yes! You have kept silent about your chief purpose in coming here, because you knew that we understood it and would answer you when we saw fit. . . .

"Know, then, that your father is dead! He died when he refused to do that which you are going to do."

Jules' eyes closed for a moment. The muscles about his mouth and jaw tightened convulsively. The other regarded him coldly. Then:

"You will not want to die!" he whispered.

Jules kept calm with a terrific effort. "What must I do?" he questioned evenly.

"You must take wives of our choosing; you must raise many children—a few of which may possibly be worthy of life in Neeya."

Jules looked at him with growing horror. His lips worked feverishly. Finally: "Never!" he breathed.

"It is the will of A-1. The alternative is death!"

Jules leaped to his feet. "You are a pack of cold-blooded murderers!"—his voice was vibrant with anger and scorn.

The other appeared unmoved. "You perhaps forget," he said, "that your life is, in all justice, forfeit for the killing of B-25." He shook his head sadly. "I had hoped that all this discussion might be carried on with the reasonable calm befitting two such intelligent men as ourselves. I trust that you will not disappoint me. . . . Won't you please sit down?"

Jules sank slowly into his chair, and nodded grimly. "If there is anything more to say, I will listen!"

"It is your impression that there is something illegal or barbarous about the threat that I have just made. But as soon as you succeed in grasping the idea that Neeya is a complete and independent nation, you will understand the simple justice of it.

"We are no more answerable to the rest of the world for the justice which we dispense here than was England, not many years ago, when it saw fit to hang its thieves on roadside gibbets. . . . The fact that you are an American citizen does not frighten us, or deter us from doing what we feel is right," he added, with a twisted smile.

Jules said nothing; and the other continued, with a new seriousness, "Yet in place of death we are offering you life—a life of wonder. Here in Neeya we have delved deeply into the secrets of existence—into the mysteries of the universe." The man's eyes flashed. "We are now at a point in scientific achievement which the rest of mankind will not reach for hundreds of years. Here in Neeya we live the life of the mind, and we deliberately develop our minds to grapple with the great problems of What Is and What Will Be. It is the ideal existence!

"DO not misunderstand me! Here you will find no complicated and ingenious mechanical contrivances. The physical manifestations of our life are of the simplest. We do not build swift-travelling machines, for we have no transportation problem. We do not build tremendous structures; for our population is not increasing in numbers, but in the power and capability of each individual. . . ."

"Somewhat intangible advantages, are they not?" interrupted Jules, with a shrug.

"Dr. Jules, you do yourself injustice when you jibe at us in that ill-humoured fashion. The very tangible evidences of our power which we need to further our purposes—we have; as you know, and as your fellow-countrymen will discover before many days have elapsed. But—"

"One would think," interrupted Jules, "that beings of your extremely advanced

ideals would shrink from destroying a great number of perfectly innocent men!"

"Dr. Jules, you will be so kind as to not attempt to deceive me concerning the actual trend of your thoughts, since I know them as well as you do yourself!. . . . You know as well as I do that the ship which is coming will attack us first, and that we will not hurt it until it has done so. . . . There is no moral stigma attached to superior efficiency in warfare!"

"Ah, but what is going to happen is what you desire to happen!" rejoined Jules hotly.

The man smiled, and shrugged in his turn. "That is as may be; it has no actual bearing on the issue!. . . .

"Enough of that! Let us return to the subject of your future. . . . You should try to realize the honor that is being paid you. You will take the ray treatment. You will daily consort with men who are the most wonderful in the world. As a scientist, you will find great joy in the universal mysteries which they will resolve for you—in the great truths which they will reveal to you. And your brain—which we believe valuable—will, if we are successful, be preserved in a number of the children which your wives will give you.

"You need not be pained because I say 'wives'. You will remain monogamous. . . That puzzles you? I see that there is one of our secrets you have not penetrated! How old do you think I am?"

Jules looked at him curiously, but hazarded no reply.

"I am nine!" said the other quietly. "I shall very likely die before I am twenty."

Jules started, frowned, and then nodded slowly. "I see!" was all he said.

"Yes—you see how our tremendous development has been possible. In the century that our civilization has existed there have been twenty generations or more. . . . It is a special effect of the Ray. We mature rapidly. We live full, intense lives. We sleep one hour in the twenty-four. Less than ten minutes is wasted in eating. Rest—relaxation—is abhorrent, meaningless to us. Thus, you see, we lose nothing. . . .

"Thus you will have three wives—perhaps four. . . ."

"I have a wife—of my own; and three very lovely children!" said Jules flatly.

"—And you would die before you would desert them!. . . . Yes, yes, we understand all that. . . . Still, I think you will do what we wish—for you have forgotten something! Why do you think we retained your two young companions?"

Jules' eyelids flickered, and his lips tightened.

"Yes! You take my meaning. . . . You know that you cannot deceive us—when you accept, you must be truly sincere; and, if you refuse, these two young men will be killed—before your eyes!"

"They have escaped!" cried Jules desperately.

"We shall know where to find them!"

"But it is butchery!" Jules clenched his fists. His brow was wet with perspiration.

The Coming of the Battleship

A SMALL white light appeared suddenly, on the surface of the desk. A-7 picked up a receiver, listened a few moments, and laid it down with a smile.

"It would appear," he said softly, "that the wife of B-25 has been conducting a personal vendetta. . . . Her body was discovered this morning, impaled on the topmost branches of a tree at the foot of the cliff, on the east side of the island. . . . Energetic young men—these friends of yours!"

Jules buried his face in his hands.

"But we shall know where to find them when we want them. And in the meantime you will be free to come and go as you wish on Neeya, and to consider seriously your decision. . . . Farewell, then, until—until the ship comes in!"

To Jules, the following days seemed endless. He was allowed to wander freely, now, among the men of Neeya; but any interest which he might have felt in his surroundings was completely submerged in despair at the utter helplessness of his position. He knew that he must make up his mind to do what they commanded; to fail in that was to sign the death warrant of his two companions.

A hundred times every day he resigned himself to the inevitable, only to have there rise up in his mind's eye pictures of his home—his children, and his beautiful young wife. A thousand times every day he cursed himself for his folly in throwing himself—and others—upon the mercy of these beings who knew no mercy. He hated the strange, impassive men he saw around him.

There were about a hundred of them. They lived in blocks of square, plain houses. Their whole settlement covered no more than an acre. And yet Jules knew that in this tiny community lay a power that the whole world would learn to fear. Often he doubted it—believed himself mad. Then, desperately, he would search his mind for a means of opposing them.

What was the source of this weapon of theirs—their electrical power? Jules puzzled over the matter. The dynamos, from the sound of them, seemed to be somewhere over to the west. If they could be wrecked.

One morning he set out to walk in that direction. Around the central settlement were the homes of the giants—big barn-like structures set in the fields where they worked daily. Jules had watched them at their labors—impressed by the playful ease with which they performed the tasks of farming. Work appeared to occupy very little of their time, the greater part of which was spent in boisterous athletic games—quite terrible to watch because of the tremendous forces involved.

Jules had progressed scarcely a hundred yards across the fields in a westerly direction, when one of the great creatures came bounding towards him, and planted itself directly in his path. It raised a great arm, pointing in the direction from which he had come; and he realized that he was not free to leave the settlement. He turned back docilely, searching his mind for the full significance of this fact. Perhaps he might do something, after all. . . . If he could only find out more about that power plant! There were no wires anywhere visible. They must be buried. . . .

He came to a startled halt. He was back among the houses now. Someone was walking towards him, and he suddenly realized that it was a woman. He wondered why he had not seen one before. . . . Probably he had, without knowing it; because she was strangely like the men. The large, close-cropped head; the unattractive white garment; the ungraceful, man-like gait—Jules shuddered, and turned aside. And yet, he reflected, he might have expected it. Women bred for their intellects would naturally be lacking in feminine charm. . . .

He tried to keep his mind off the future.

One night, on returning to his bare room in the house of A-7, he found a sheet of paper on his table, bearing a single sentence:

> "The store in the harbour village has been plundered of a substantial supply of foodstuffs."

FOR a moment he gazed at it in complete bewilderment, before realizing its import. Then he sighed, and smiled wanly. Howd and Jerry were, as A-7 had expressed it, "energetic young men"! Grimly he vowed that he would submit to anything before harm should come to them.

The people he met paid him not the slightest attention. They appeared to be intensely preoccupied with their thoughts. Idly he wondered if he had seen the mysterious "A-1". And then, following that, a second idea had dawned in his brain. . . . If he could only get at this A-1—locate him—take him by surprise! There was nothing to lose. . . .

In the center of the settlement was a building larger than the others. He had often wondered about it. Now he spent his time in its vicinity, trying to discover its function. Many people went in and out. . .

As the days went by his mind became almost entirely occupied with his two vague plans. And, unfortunately, he did not realize the danger of this, until too late. Returning to his room one night, he found a second note:

> Herbert Jules:
>
> It has been reported to me that you are harboring certain violent intentions towards our power plant and towards the person of A-1 himself. You will remain in your room until the morning of the day after tomorrow when the attacking ship is expected to arrive. By that time you must have come to a de-

cision on the matter which we discussed.

For your information, the building which has aroused your interest houses the Ray apparatus, the Nursery, and the apparatus for exterminating children which do not come up to our specifications.

A-7

Jules threw himself full-length upon the bed. In his haggard face the lines were deeper, and the eyes were dull. . . .

He had come to his decision.

In the bright morning sunlight Dr. Jules stood upon the cliff's edge; and gazed out across the water to where, a half mile or so from shore, lay a majestic battleship, flying from her stern the stars and stripes of the United States of America. She lay broadside to the shore, and in the clear air Jules could see with startling distinctness the sailors in their white uniforms, and other men in darker clothes, whom he knew to be Marines. It was a beautiful and imposing picture. But in Jules' eyes, as he gazed, was only horror and despair.

Beside him stood the man A-7. "We are in radio communication with the ship," he was saying, in his calm, soft voice, "and have absolutely forbidden them to land. Any attempt to do so, therefore, may be taken as a hostile measure; and. . . ." He did not finish his sentence; but glanced meaningly to where, a few feet away, stood a strange machine. It was a large, black box, surmounted by a reflector resembling that of a powerful searchlight. Across the ground and into the box ran a heavy cable.

Jules paid the other little attention. His brain felt numb. He found himself marvelling in a detached way at these weird, unearthly people, who sent a single man to wage war on a great battleship, and had not even curiosity enough to watch the proceedings. . . .

"Yes," the other took up his thought, "we of Neeya have little interest in mechanical playthings, and less in warfare. That is why you see no one here. . . . A-1 is, however, coming—to give me authority for what I do. We plan that this shall be the last foreign interference that we shall ever have to deal with. . . ."

"Where do you get your power?" blurted Jules. While the other had been speaking, he had seen something that set his mind racing in a turmoil of excitement. Out on the bright surface of the sea, moving slowly towards the ship from the north, were two bobbing, black specks—and he knew what they were! If he could only keep the other occupied, there was yet hope of averting the disaster. . . .

"Ah, you have not guessed, then?" As the other rose to his bait, Jules could hardly help shouting his relief. "You had designs on our power plant, I know. But there is no harm in telling you now. . . . We use steam. And how do we heat our boilers? We use natural fires!"

Sudden Action

"NATURAL fires?" exclaimed Jules loudly.

"Exactly! This, of course, is a volcanic island; and, at one point inland, the volcanic fires are not far below the surface. There we sunk our boilers; and, fed with water by pipes, they form a permanent power supply. . . ."

"Wonderful!" cried Jules. While the other spoke he had been racking his brain for a new topic of conversation. Now, in a flash, he had it. . . .

"I see how this machine works," he said eagerly, "but what could you do against aircraft?"

"Ah, we have another machine! This one is grounded, so that the radio beam forms one side of the circuit with the ground as the other. Our other machine is not grounded; but has two reflectors, which project parallel beams just ten feet apart. . . . So, you see—"

He stopped suddenly, and looked intently across Jules' shoulder. Jules swung around in alarm to see gliding swiftly towards him a tall, black figure.

"A-1!" hissed the other.

The approaching man was completely enveloped in a hooded, black cloak, with narrow slits for the eyes. Suddenly came his voice, hard as steel. . . .

"Fool! Do you not see what is happening?" He pointed with a rigid arm; and

Jules' heart sank. Then A-7 saw, for the first time, the swimming men. With a startled gasp he leaped to the machine. . . .

"You cannot hurt them!" cried Jules frantically. "You have pledged me their lives, since I have agreed to—"

"They are interfering with more serious matters!" came the hard voice.

Suddenly, from behind the ship, shot out a small boat, rowed by a sailor towards the swimmers. A-7 swung the great reflector, and Jules heard the click of a switch. . . .

With a hissing roar, a tremendous column of steam shot into the air, as between the swimming men and the approaching boat a great, circular surface of the sea bubbled and leaped and boiled. The man in the boat stopped rowing, and scrambled erect.

BOOM!—a puff of white smoke from the ship's side, and a shell whistled over the cliff to crash and crackle in the woods beyond.

"Ahhh!"—a long sigh of satisfaction from the hooded figure—"They have done it—they have attacked!. . . . The small boat!"

A-7 swung the reflector. The boiling, steaming circle rushed across the sea—enveloping the little boat. The sailor collapsed across the gunwale. His hair and clothing blazed—his body blackened and seemed to crumble. . . . Then his head dropped off into the water; and, as Jules screamed aloud in horror, the boat sank from sight. . . .

"The ship!"

At the sound of that hard, cold voice, there rose up within Jules a wild, mad surge of anger against this black monster before him. With gnashing teeth and clawing hands he threw himself at the other. . . .

Suddenly he was looking into two blazing, overpowering eyes—felt sick and weak—was falling swiftly into a roaring, black emptiness; yet no matter how fast he fell, those blazing eyes were still upon him—and he struggled futilely. . . .

* * *

Somewhere, someone was calling him—faintly, steadily: "Dr. Jules!. . . . Jules, Jules. . . .!" Whirling in the blackness, he struggled to keep near the sound. Sick with dizziness, he fought on and on—until gradually he whirled less swiftly, and the voice became clearer.

"Dr. Jules!"

Now he knew that he was lying on his back—quietly, restfully. He opened his eyes. . . .

In a blazing brightness a face hung above him—a familiar face.

"Hello, Doctor!"

Suddenly he knew that this was Howard Duncan. "Hello!" he said feebly.

Howd looked across at Jerry, and nodded. "He's all right," he said.

Five minutes later Jules was sitting up in bed, gaping helplessly at Captain Jones of the battleship.

"Let me get this straight," he groaned in bewilderment. "I'm on the ship—and the ship is unharmed—and we are now headed back for Washington?"

"That's right!" grinned the Captain. "We're retreatin'—damned if we ain't!. . . . But these boys can tell you more about it than I can. I got knocked out!"

Jules looked inquiringly at Jerry, who burst into speech: "Well, when we finally got to the ship here—an' I never wants come nearer drownin' than that!—we found half the floatin' population unconscious an' the other half tryin' to revive it. . . . Well, they did revive it—an' the Captain can tell you the rest!"

Captain Jones swore volubly. "I don't know what kind of hell-fire dingus they got on that there island; but there ain't no use fightin' somethin' you can't see that knocks out a couple of hundred men in one whack—so when I came to, I radio'd 'em that we'd leave peaceably; an' they radio'd back to send a boat for you. . . . So we did, and here you are!" The Captain fished in his pocket. "Fella gimme a letter for you.—Here it is!" he finished.

Jules turned the white envelope over in his hands thoughtfully. He looked up at Howd. "Where have you been all this time?" he smiled.

"Oh, we hid in a cave under the cliff," said Howd.

Jules tore the envelope. "Excuse me, please," he said; and unfolded the paper.

Dr. Herbert Jules,
On board *U. S. S. Oregon.*
Dear Dr. Jules:

You did us an injustice in supposing that we intended to destroy an entire warship to prove our capabilities. We found it sufficient to slay one man and mildly shock a number of others. I freely forgive you your attack upon my person, since, under the circumstances, it was entirely justified. I was expecting something of the sort, and came prepared.

Am I too sanguine in hoping that you will, in turn, forgive us the many indignities and discomforts you have suffered while on our island? We hoped that you might become one of us; but, since that is impossible, I have another request to make.

But first let me assure you with the greatest sincerity that you have been misinformed regarding the circumstances of the death of your father. With the object of making his visit to Neeya a complete and entire secret, he leaped from his yacht in the night, as (following the course he had prescribed) it passed close to the island. Unfortunately, he overestimated his strength; and, during the arduous swim, contracted an illness from which he died within a few days. Allow me to join you in your grief at the passing of a very great and good man.

Now, as to the favor I beg: Since you, better than any living man (outside our island), know the purposes and characteristics of Neeya—and since we can no longer keep our existence a secret—would you consider acting as our Representative at Large—to the world in general, as it were? The post, I can assure you, will rapidly become one of the greatest importance; and you would do us an inestimable service by accepting it.

If you decide in our favor, will you get in touch with us by radio? Hoping that you are suffering no ill effects of your adventures here, I beg to remain,

Ever your faithful servant,
A-1 of Neeya.

Jules lowered the letter; and remained for a very long time staring straight ahead of him, into space. Then a grim smile overspread his face, and he slapped his knee loudly. . . .

"By God—I'll do it!" he cried. The others looked at him curiously.

"Listen!" he said; and, picking up the letter, he read it over, aloud. There was a long silence which Jules finally broke. "And when my job is over," he said slowly, "I may go back to Neeya, if only out of curiosity."

THE END

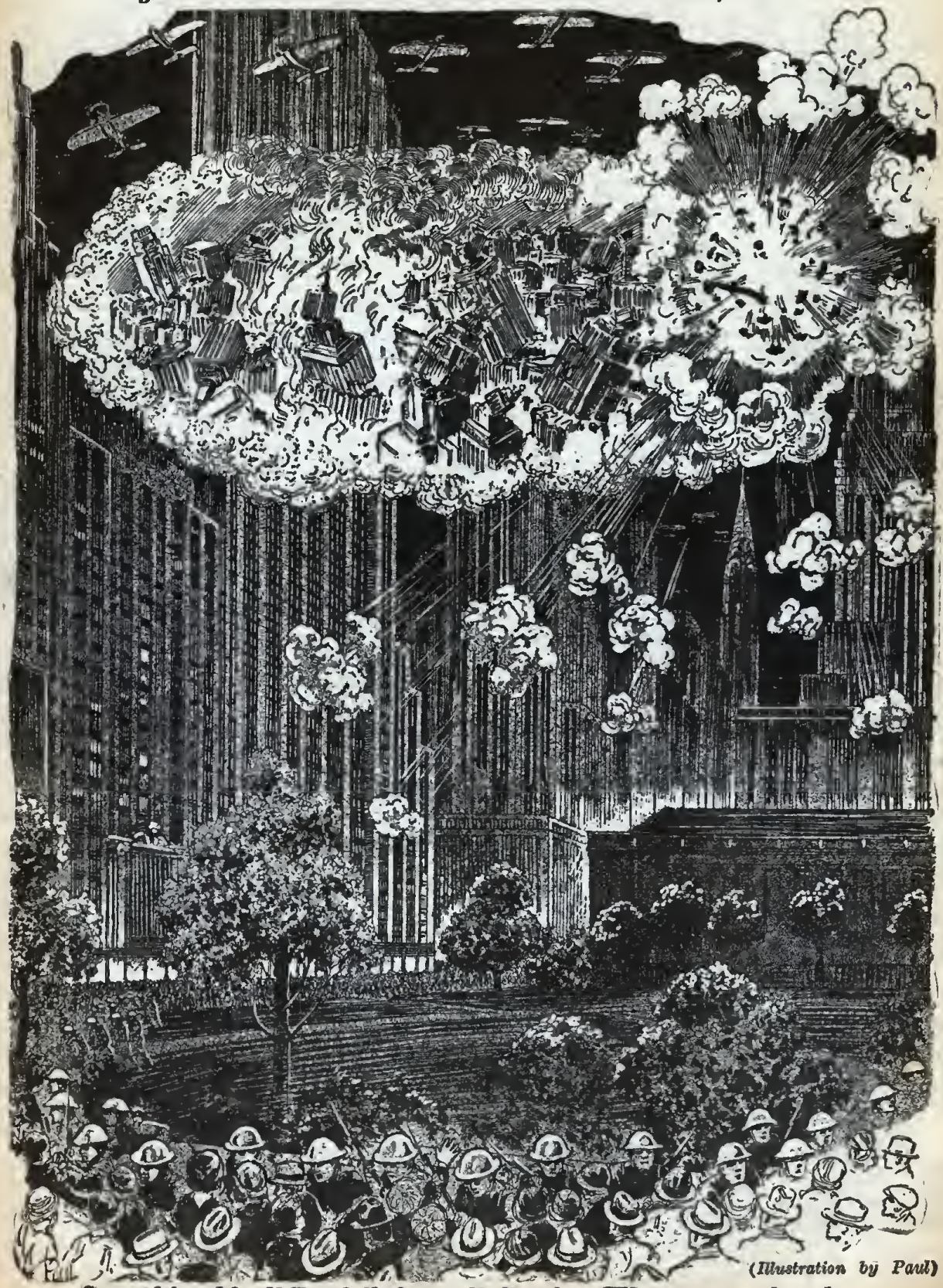
What Is Your Science Knowledge?

Test Yourself By This Questionnaire

1. What are the asteroids? (Page 305)
2. What is the relation between the surface gravity of earth and Mars? (Page 308)
3. What is the scientist's conception of the geometrical limits of our universe? (Page 315)
4. What property of a liquid tends to offset the gravitational force of its surface? (Page 315)
5. What is Prevost's "Theory of Exchanges?" (Page 318)
6. What is pitchblend? (Page 345)
7. How are neutrons formed? (Page 357)
8. What are thallophytic plants? What is chlorophyll? (Page 358)
9. What is the effect of X-rays upon animals? (Page 369)
10. What is the weak link in the evolutionery chain? (Page 378)

The Time Projector

By David Lasser and D. H. Keller, M. D.



(Illustration by Paul)

Something black hurtled through the air. There was a thunderous roar, a second of splitting universes, cries of warning . . . .

What Has Gone Before

SEVERAL months after his father and mother have died, Carol Dunfrey, heir to the vast Dunfrey estate, reads a letter from his father, left for him, asking him to visit a Henry Booth as soon as possible and render Booth all possible aid.

According to the directions Carol meets a young man named Green who gives him the directions for meeting Booth, who is somewhere in the Blue Ridge mountains.

On his way home Carol's road is blocked by crowds at Central Park. He investigates and finds an immense throng of people at the park gazing at a cloud on which moving pictures appear. He meets his sweetheart Joan Blake there and takes her home. At her home, with her father William Blake, a noted attorney and friend of the Dunfreys there, Joan explains to Carol the meaning of the cloud pictures. They are pictures, she says, predicting the future, and are projected onto this cloud by some unknown force. The motive of the projections is unknown.

The next day Carol is asked by Blake to attend a meeting of one of his corporations. Some of the predictions of the cloud have come true and the financial section of the country is in a panic. At the meeting, it is decided to have bills passed by the congresses repressing radical agitators. But Blake states that the projections are no work of agitators but of a scientific mind that has no human equal. Blake asks Carol later to help him find the man responsible for the pictures and destroy him. But Carol refuses.

Several days later Carol sets out to find Booth. When he is over the Blue Ridge a mountain top opens up and Carol finds his plane descending into an encampment of houses in the mountain. Carol meets Booth who tells him that he is responsible for the prediction pictures by use of a gigantic machine, and that he is trying to save man from his own folly by showing him his future. Carol joins with Booth and goes back to the city to begin work. Carol meets Carr who supplies Booth with equipment and food, and then asks Bowden, his broker, to buy him a newspaper. He wants now to be the vocal organ of the time projector.

Blake meanwhile has been trying to track down the "Time Projector" and gets a clue that leads him to feel that Henry Booth is his man. He asks Carol again to join with him, but Carol now allied to Booth refuses, even though it means a break with Joan.

A bill to inflict capital punishment on radical agitators passes the American congress and there is rioting all over the world.

Carol sees suffering of man everywhere. Booth asks him to return to the cave for further instructions. Carol does, but when they land at the cave, Booth shows him that Joan has hidden herself in the plane. Joan says that she came to spy on Carol. Booth says that now she must remain a prisoner here. Carol goes to Joan to get an explanation of why she spied upon him.

Now Go On With the Story

HE found her in a cool, blue walled room in the building next to his own. She greeted him mockingly.

"I understand I am a prisoner here," she said, taunting.

"I'm afraid so, Joan," Carol answered. "But you must understand . . . "

"Understanding nothing," Joan flashed . . . "I demand to be returned to New York . . . "

"But you came of your own volition . . ." Carol said reproving . . . "Why did you, Joan?"

Joan drew herself up. "To spy upon you, as I told you . . . It's quite simple. Father suspected that you might have known something about the exhibitions that you wouldn't divulge. It was only a chance guess of his but he determined to follow it up. I heard him ordering some detectives on your path. Pretending ignorance of this, I told him that you were leaving for Chicago in the morning. With the detectives out of the way, looking for you at the station, I went to your house and watched the preparation on the plane. When no one was looking, I stole into it. That is all."

Carol grasped her hand. "Then you did this for me . . . "

Joan withdrew her hand. "Oh no," she said coolly. "I preferred, since daddy was insistent on spying on you, that I do it myself . . . What kind of a place is this where I am to be a prisoner . . ."

"I can't tell you, Joan . . . Mr. Booth . . " Carol stopped, his face red . . .

"Booth?" Joan exclaimed excitedly. "So it is he?"

Carol shrugged. "I suppose you might as well know it . . . This is the home of the time projector, the cloud pictures are broadcast from here . . . "

Joan's face changed suddenly from wonder to fear, then to wonder again, as though she were trying to comprehend Carol's statement of fact. Then she realized Carol's position. Contempt came over her face. "So . . . you are responsible for all the unhappiness caused by the pictures . . . "

"No, Joan." Both turned at the sound of Booth's voice. He was standing in the opened doorway. "Excuse me for intruding, but I don't want you to blame Carol for anything. Carol is trying to do what he can for mankind . . . "

Joan faced Booth silently. It had suddenly come to her that this man must be

the one her father sought. That the brain of this strange, silent man, was responsible for the pictures that projected the future, that was making chaos of a world. She brushed a hand across her forehead to try to encompass the thought, listening hypnotized to Booth's words.

"Carol has told me," Booth said soothingly, "that your father and you believe I am a menace to the world. According to your lights, perhaps I am. But before you judge me, I want to show you something, something that even Carol has not yet seen. Then if you still judge me an enemy of mankind I will release Carol from all affiliation with me. Is that fair?"

Joan nodded dumbly. "I want both of you to come with me."

They followed him into the street and then to the building below which was the time projector. Carol remembered these passageways as leading to Booth's projection room.

Joan looked about her, wondering, as they entered Booth's room, and dazedly followed Booth's instructions to seat herself before one of the projection tables. Carol was seated at the other. For five minutes Booth worked carefully at the dials, trying, as he said to get the machine in mathematical synchronism with the events he sought, while Carol and Joan saw in the binoculars a succession of blurred images pass before them. Finally the images cleared, and a picture formed. As though from the air they viewed a great city.

Skyscrapers rose everywhere a thousand feet into the air. Beyond the city limits, on one side, opened spaces led to smaller villages and great groves of trees laid in rows miles long. On the other side, stretched from a bay an endless expanse of water.

"Los Angeles!" Carol and Joan thought in recognition.

Slowly they seemed to descend toward the city until they hovered barely above the building tops. As they watched the narrow crevices that were streets, the splotches of green that were parks, and crawling everywhere the endless streams of buglike motor cars, they noticed a swaying in the buildings. Suddenly across a green square of park there seemed to be drawn a dark line, that widened as it moved on. It crept quickly like a thing alive toward a nearby group of buildings. The swaying of the buildings increased until from one there came a soundless rending, and down, down into the street, bouncing from one side of the canyon to the other there dropped a great mass of stone and twisted steel.

From other parts of the city dark lines seemed to spring into life, and as the view descended closer toward the city, Joan and Carol saw with horror that the lines were great cracks in the streets. From everywhere now there came a rain of masonry and steel, until the streets below were chok-

THIS powerful serial comes now to its dramatic climax. We know now that the world has for its guide, the most stupendous of powers—a machine to read the future! What will be done with it? Will Henry Booth in his hidden retreat be able to save man from his follies and change the whole course of human destiny or will man turn against his benefactor, and subject himself to the terrible disasters that lurk for him in the future?

These questions go back to the root of our whole civilization. If man can not be guided on his tortuous path, by a great mind and a great force, then his way is going to be very dangerous, indeed. If man however can perceive the dangers of his future and act to eradicate them, he may be saved. If not, there is a good chance as Henry Booth says, that he will destroy himself in one great holocaust of war. Which will he do?

ed with the wreckage. Thousands of horror-stricken people rushed this way and that; madly, frantically, futilely, as the rain of tons and tons of twisted masses dropped upon them with terrifying velocity. Motor cars were smashed flat to the ground, crowds numbering hundreds were buried under a single deluge. As though a giant hand were twisting the city spires, they tore away from their supports to add their masses to the gutted streets. Beyond the city the ground seemed to heave up like the slow breathing of mother earth. Villages were demolished in a moment, mile-long orchards uprooted until barely a tree was left standing . . . almost as far as the eye could see all upright things were levelled to the earth until only bare gaunt walls here and there, around which floated lazily clouds of stone dust marked the remains of a great metropolis . . .

DAVID LASSER

Beyond the city on distant hills could be seen trickles of a movement of some kind, that, as the picture drew closer, were revealed as lines of refugees madly rushing from the stricken city . . . Joan cried out . . . "Oh that's enough!" she sprang away from her seat. Carol, white-faced, rushed to her side.

Booth had snapped off the machinery, and he took Joan's hand . . .

"Let's go out now," he said to Carol, and between them they led the dazed, almost hysterical girl to her rooms.

CHAPTER XI.

Carol Pleads

JOAN did not emerge from her rooms until after breakfast the next morning. George on her request served her meals in her quarters, and to Carol he brought no message, except that she desired to be alone.

Meanwhile, seated with Booth in the projection room, Carol learned the meaning of the frightful disaster that the projector had displayed the night before.

"On August 9th of this year, a little over four weeks hence," Booth said simply, "An earthquake will devastate Los Angeles and the surrounding territory, over an area of fifty square miles in which live three million persons. As a result the city will be practically razed to the ground. I discovered this just three days ago . . . ."

Carol was speechless. Somehow, over the night, the scenes of the disaster had become blurred in his memory. He had hoped it had been only a dream.

DAVID H. KELLER, M.D.

"I can't believe it," he said in a low voice.

"You must believe it, and make plans to meet it, Carol," Booth said earnestly . . . . "upon what we do depend the lives of these millions of innocent people . . . Do you still want to go on with me?"

A great shame for his past feelings flooded Carol. He took Booth's hand. "I don't think that I've been loyal," he said. "But I'll do anything I can now. What do you propose?"

"I believe," said Booth, "that we should project on the cloud the pictures of this disaster and that it should be done at once. The people in the stricken territory will have four weeks in which to evacuate the city."

"Project the pictures!" Carol cried alarmed. "Do you realize what that would do, with the country upset as it is?"

"What can be done otherwise?" Booth asked grimly.

"Why not warn the government?" Carol said, "and allow it to proceed with the evacuation slowly. The authorities could perhaps give some reason why it must be done . . . . "

"Carol," said Booth in a fatherly way . . . "You do not understand your world. Assuming we were to send the warning to the president at Washington. Assuming we were to send as evidence a film that picturned the disaster. Do you think he would accept this evidence, which to him may be a fake, as reason for ordering three million people to evacuate fifty square miles, that comprises one of the largest cities in the country?"

"But he must . . . " Carol blurted out . . . "we could make him understand . . . Make it so forceful that he couldn't refuse . . . . Don't you see," he pleaded, "if we broadcast this thing now it would only make the people panic stricken . . . . "

"No, I don't intend that," Booth said. "I intend that the projection shall be a means to force the president's hand. If he believes in this projection, and his reason will tell him that he must, he will declare martial law in that territory, and quietly and efficiently carry on the evacuation during the next four weeks. All money and valuables, all movables can be transported from the city and provision made for housing and feeding the millions of refugees . . . I want to give the president the opportunity to save these millions from a worse fate . . . : the fate you saw . . . . "

Carol shuddered . . . . Perhaps Booth was right . . . . But then he remembered the city mobs . . . . and their anger and impotence on gazing at the cloud pictures . . . . He remembered the man whom the mob had killed . . . . leaving his sightless eyes upturned to the sky. No, they couldn't project the pictures yet . . . .

"Give me a chance to do it my way first," he pleaded . . . . "I will go to the president myself and present him with a film showing the disaster. I will use all my influence to get him to carry out the evacuation quietly . . . . Let me try it . . . . "

Booth's face seemed to soften as he looked into the eyes of this young man. He understood what Carol was feeling, and he was glad for it. He saw clearly now, the change that had come over this boy since his first visit. The Carol he had first seen was a spoiled, self-centered young dilettante, indifferent to the great sufferings of his world. Now the boy was begging him to spare his people great torture. Booth felt his judgment swaying . . . . he weakened . . .

"Very well, Carol," he said finally, "go to the President . . . . I give you two weeks to win him over."

Carol grasped the old man's hand. "You won't regret it, Mr. Booth," he said earnestly.

They arranged then that Booth was to have mailed to Carol a roll of film showing in motion pictures the views of the impending disaster. It was to be mailed anonymously with a note stating that Carol had been chosen as the recipient, because of his courage in defending the cloud pictures in his newspaper. In this way all suspicion of Carol's complicity with the prophecies might be removed.

For a long time in Booth's office they talked over their plans.

"May I tell Joan about this?" Carol asked finally.

Booth's sad eyes twinkled. "I don't see why not," he said, "providing that you understand she is to remain here, until we can make ourselves known to the world . . . . "

"But can't we notify her father. He will go mad with anxiety; if he doesn't hear from her."

Booth considered. "We will allow her to write to her father, and you will post the letter in the city. We must have her word however, that no mention of her whereabout is to be made."

"Very well." Carol left the room and went in search of his fair prisoner.

They walked slowly through the encampment together. Beginning with the original note from his father, Carol told Joan the complete story of his first meeting with

Booth and the latter's scheme, for the world's rejuvenation.

"So now your understand my secret. It terrifies me at times," he told her finally, "to think that I am to be responsible for changing over a world . . . . I don't believe that I am capable . . . . I need your support, Joan, in what I am doing. I want to feel that you are no longer my enemy."

"I was never your enemy, Carol," she said softly. "I simply didn't understand. I have been unjust . . . . " She hesitated a moment, and Carol could see that this proud girl was battling with herself in making this admission. "I didn't have faith in you . . . I have been stupid," she added. "I believe in you now, Carol."

"No one is at fault," Carol burst out trying to explain a deep feeling in him.

"Neither your father nor Booth is right or wrong . . . . No one is right or wrong . . . We are all battling blindly for things we believe in. That's what makes it so damnable."

Then he took her hand. "But it's going to be all right now, Joan," he said eagerly. "I think the president will be wise enough to understand the meaning of this projection. Science may even find some means of averting the worst part of the quake . . . . the buildings might be strengthened . . . . "

Carol saw that she didn't believe his words. He hardly believed them himself. But the horror of what lay in store for those millions of people was too much to think about. His mind instinctively tried to brush it aside with thoughts of optimism.

"Start quickly then, Carol," Joan said. "And feel that I am with you." Then she added wistfully . . . "Can't I help?"

Carol grasped her hand . . . "You have helped . . . But I'm afraid you must stay here, Joan. Write your letter to your father, I am starting back immediately . . . "

* * * *

THE next morning, Carol received at the offices of the *Daily Conservative* a neatly flat cylindrical bundle addressed to him. He smiled grimly as he unwrapped it, and read the note, warning of the disaster, and signed by "The Time Projector."

Shutting his office door, he called for a television connection with Benjamin Farthing, president of the United States. He knew that Farthing would be willing, even anxious to speak with him, for Carol had lashed the man mercilessly for signing the "Defense Of Property Act."

He remembered Farthing as a lean, rather scholarly looking man, once partner in a great international banking house. Farthing had been at the Dunfrey home often, in earlier days, and years ago, Carol recollected with a smile, he had patted Carol's head, and said to William Dunfrey, "what a bright little fellow you have."

For all of his faults, Farthing was a kindly, well-intentioned man, who, Carol felt, would listen carefully to his story.

In a few seconds a room in the White House appeared on the screen before Carol's desk, and he found himself facing the president's chief secretary, a short ruddy-faced man.

"This is Carol Dunfrey," Carol said, despite the sign of recognition in the man's eyes. "Is it possible to speak with the president for a moment?"

The secretary's voice was polite and deferential. "The President is in conference, Mr. Dunfrey, could I call you?"

"Yes, please, it's rather important."

He switched off the connection and turned to the mass of accumulated work that lay before him.

Reading over the newspaper despatches of the past day, he noted with relief that the chaos that had threatened to engulf the world, had subsided temporarily. In foreign nations the bills to declare radical agitation capital offenses, were meeting strong resistance, and in America a movement had already started to have the "Defense of Property Act" declared unconstitutional. Perhaps, Carol thought, the balance of sanity in the world might win out after all. Yet there was no doubt that it was an uneasy world that would have to face the knowledge of the Los Angeles disaster.

Carol's secretary entered to announce that William Blake wished to see him.

Carol whistled. Blake must already have received Joan's letter.

He went to the door to meet his visitor. Blake's face was white, his hands were shaking. He could barely find his way to a seat Carol offered him.

"Joan's been kidnaped," he said suddenly, staring at Carol with frightened eyes.

Carol felt a wrench of remorse. He realized fully now, how much Joan meant to this strong man, and what a blow her disappearance must have been to crush him as it had.

He went to Blake and put his hand on the lawyer's shoulder.

"I'm very sorry, Mr. Blake. How can I help?"

Blake sat very still for a moment and then handed Carol a letter. Carol read it through.

"Dear Daddy,

I have run away for a few days. I know you are so busy that you won't miss me. Please don't enquire about me. I am with friends and will be back quite soon, I hope. Please take care of yourself, father. I will write again soon.

Joan."

Carol handed back the letter. "But, Mr. Blake, this says nothing about a kidnapping."

Blake rose suddenly from his chair and glared at Carol.

"Carol," he said ominously. "If I didn't know you so well, and know your parents, I could believe that some evil disease is in you. You know where Joan is," he put out his fist threateningly, "now tell me . . . . "

Carol stood his ground.

"Do you believe, Mr. Blake, that I would try in any way to harm Joan or keep her from you?"

"Then where has she gone?" Blake asked agonized. "Tell me, Carol, where were you yesterday and the day before?"

Carol avoided Blake's now steady glance.

"I was away on business," he said in a low voice.

"Yes. You left early in the morning, of the day before yesterday. Joan disappeared then. You returned today; and Joan's note reaches me. What does it mean Carol?" his voice had become a growl, the baying of an angered animal. Carol backed away.

"I give you my word, Mr. Blake, that I would do nothing in the world to cause any harm to come to Joan. I love her more than anything. You know that."

Blake looked at Carol levelly, then picked up his hat. "I may believe you, Carol," he said, as he turned toward the door, "but if Joan is not returned to me soon, those responsible for her detention will pay heavily."

He opened the door and left without a word.

CAROL sank into his chair. He felt completely imprisoned now in a torture chamber. He could not remain motionless, for the instruments of torture were already at work on him, and he could not move, lest he encounter a greater pain.

He must act in some way to unite Joan and her father. There was no telling how many months, or even years it might be before the Time Projector could be made known to the world. And long before that time came, if Carol knew Blake right, the man would have succumbed to madness and grief.

The indicator on his desk buzzed, and wearily lifting the telephone he was informed that the President would speak with him. In a moment Carol faced the quizzical features of Benjamin Farthing.

"The same Carol Dunfrey," the President said with a slight smile. Carol noted that this man too was showing the strain of the past months. "But an editor gone berserk," Farthing added with his characteristic humor.

"Seriously, Mr. President," Carol said respectfully, "I wish it weren't necessary . . ."

"Now, now," Farthing reproved. "I think that after you have felt your taste of power . . . "

Carol felt a surge of anger. "I didn't call you for that, sir. I would like to come to Washington to see you at once. I have something of the utmost importance to convey to you."

Farthing's face clouded. "The utmost importance?"

"The utmost importance . . . . Could I see you this evening?"

Farthing considered . . . . "I am giving a White House reception . . . . "

"But, Mr. President," Carol protested . . . "This is of immediate importance . . . "

"Very well," Farthing said, "I trust that you are not overrating it, Carol. Can you be here at ten?"

"I can and will," Carol said. The connection was cut.

Carol returned to his home late that afternoon, and immediately locked himself in his father's room, where he opened the communication to Booth.

"I am to meet the President at ten tonight," he told Booth, as the latter faced him across the televisor.

"I hope you succeed, Carol," Booth said earnestly.

"Mr. Blake visited me this morning," Carol went on. "I believe he will go mad if Joan does not return soon. He sees through her letter and is certain she is being forcibly detained."

"I don't see what we can do," Booth replied. "It might be fatal to allow her to return." He smiled sadly. "We might better bring Blake here."

The thought struck Carol like a flash. Perhaps if Blake could be brought to the cave, and could meet Booth and see what the man was doing, he might cease his avowed enmity. But what if he didn't, and still believed that the Time Projector must go . . . He shook his head . . .

"May I speak to Joan a moment?"

"Certainly." The screen was vacant for a few minutes and then Joan's image appeared. She brightened on seeing Carol.

"Joan," Carol said. "Your father called on me today. I don't want to deceive you. He is worried. Will you write him again today, and please assure him that you are quite happy?"

"For your sake, Carol," Joan said. "You're coming here again soon?"

"In a few days, dear." Then he leaned toward the screen as though in that way, to feel more completely her physical presence. For a few minutes they strained toward each other, pouring across the lifeless metal the fullness of their being. Then Carol relaxed with a sigh.

"I must go now. I am to see the President tonight."

"God bless you, Carol." The screen went dark.

CHAPTER XII.

At the White House

AT a quarter past eight that evening Carol's plane, fueled for the flight to Washington was brought from its hangar, and with Pimpkins following him with his luggage, Carol walked down to the plane. It had been Pimpkins' suggestion that Carol be prepared to dress for the reception if the President insisted. Carol, however, while agreeing that Pimpkins should take evening dress mentally determined to walk out on Farthing if the latter did not give immediate attention to his warning.

Settling themselves comfortably in the plane, Carol set the helicopter screws and the machine rose gently into the air, until it hovered over that mysterious fairyland of darkness and brilliant shifting lights that was New York. Soon they were traveling south, the city gradually merging into the greater darkness, until only a light here or there from a great tower, or weaving strands of searchlights distinguished the metropolis.

Though the Washington airlane was naturally free of traffic at this hour, Carol paid no attention to the continuous drone of a plane a half mile to his rear. Even as they approached Washington, an hour later, and he turned to see that the plane was directly behind him, "on their tail" as it were, he gave it little thought. Carol was not naturally of a suspicious nature, and he paid little attention to Booth's warning that he might be spied upon.

It was only after he had landed at New Bolling Field, and was being whirled toward the White House in a motor, that he realized that he was being followed. He had noticed casually enough that the other plane had landed at the field hardly half a minute after him, and that two men had jumped into a taxi to follow his waiting car. Now the taxi lagged behind his car a discreet two or three blocks.

Carol, however, was too much concerned with his impending meeting with the President to give the shadowers serious thought. He did, however, ask Peter to get out at the entrance to the White House grounds, as to observe what his pursuer did. Peter was to met him later at the White House portico. He scribbled a note for the White House guards, "This man is my servant and I have asked him to wait here for me while I am in conference with the President—Carol Dunfrey."

Peter grinned. "I enjoy this, sir."

"But be discreet, Peter," Carol admonished. "I believe we have arrived." Before them loomed the White House, ablaze with light. Although it was already ten o'clock, a stream of motor cars passed up the driveway entrance. Peter saluted stiffly and got out. Then slowly, Carol's car joined in the line that moved toward the portico.

When he had arrived at the doorway to the White House, he found the President's secretary waiting for him. "Come this way, sir, the President expects you."

Dozens of pairs of eyes then lifted in surprise as this indifferently dressed young man, carrying carefully under his arm a flat cylindrical package followed the President's chief secretary through the gaily lit rooms.

The door to the President's library was thrown open, and Carol found himself facing Benjamin Farthing. In immaculate evening dress, Farthing walked forward to greet Carol.

"I'm glad to see you again, my dear sir, I hope you had a pleasant trip."

Carol took the proffered hand.

"I hope," the President said, looking curiously at Carol's package, "that after you have given me your message that you will join our party. You will find many of your old friends here."

Carol shook his head. "I have little time for that, Mr. President. Perhaps," he added significantly, "after I give my message you will have little time also." The President's offhand manner was beginning to irritate Carol beyond his natural courtesy.

The President colored slightly. "Very well, will you sit here, sir."

Carol sat down on a long sofa and with the cylinder that he had refused to give up, resting on his knees, and the President next to him, he drew from his pocket the letter from "The Time Projector" and handed it to Farthing.

"This came in the mail, this morning."

Farthing glanced from the letter to Carol and then with a sigh of anticipation read the typed note:

"Dear Mr. Dunfrey:

Because of your courage in defending the showing of the cloud pictures, I have chosen you to convey my message to the world. The package that comes with this letter contains a film showing in motion pictures an earthquake that will strike Los Angeles on August 9 and continue for three days. As you will see from the film, the city will be practically razed to the ground and will endanger the lives of three millions. I am not projecting this disaster until I give you a chance to warn the country. If nothing is done to evacuate the territory within two weeks from today I will proceed to project the pictures contained herein. Meanwhile you have freewill to proceed as you see fit.

The Time Projector."

SEVERAL times as he read the letter, Carol saw the President's face puckered in a thoughtful frown. But when he had finished, he looked smilingly at Carol and said, "So we are doomed."

Carol tapped the cylinder. "The pictures are here, Mr. President. They show what the letter claims."

"And you believe in it?" the President said softly.

"I have no other alternative," Carol answered. "Unless the whole thing is a fake. It's safer to believe."

"What do you want me to do?" Farthing asked.

"I want to show you these pictures at once; so that you can see what a terrible thing may hang over the country."

"But I have no operator here," Farthing protested, "and I must go to my guests. Couldn't we make it tomorrow morning?"

CAROL stood up. "Mr. President," he said threateningly. "If I leave this

place tonight without your having seen what I have here, I will not come back. You can choose for yourself whether this thing is real or a fake. But I give you the opportunity, now."

Farthing sighed. "You are a persistent young man, Carol. I suppose I must yield." He reached for a telephone. "Please get me a motion picture operator at our little theatre at once." He put down the phone.

"Now, that is done, will you have some refreshments?"

"Gladly," Carol smiled. "My man Pimpkins is outside. May I have something offered to him? He is waiting on the portico."

The President reached for the telephone again, and gave the orders.

The two men, smoking and talking, allowed their tension to relax in reminiscences of the days when Carol's parents had been alive. Despite the wide difference in the economic and social views of Farthing from his own, Carol realized that the President was a charming, well-informed man, who could be depended upon to do the right thing according to his own lights. Under the spell of Farthing's genial manner, Carol gradually felt his hostility vanishing. The telephone rang. Farthing answered it.

"An operator will be here in twenty minutes," he told Carol, "but we could not locate your man."

Carol looked up in surprise. He knew that Peter would certainly have obeyed his instructions to the letter. What could have kept him? Farthing noticed Carol's anxiety.

"Is anything wrong?"

"I can't understand why Pimpkins isn't there."

"Perhaps he wandered off?"

Carol shook his head smiling. "You don't know Peter. Barring an accident to him he would be on the portico though the heavens fell. Could you have someone look through the grounds for him?"

Again the President lifted the telephone. "Will you have Messrs. Smith and Casey search carefully through the grounds for a Mr. Pimpkins, and have them report back to me?—They are my secret service protection," he added to Carol.

Ten minutes more passed before there was a knock on the door, and two men entered.

"Beg pardon, sir," said one. "We found no trace of Mr. Pimpkins."

The president and Carol exchanged glances.

"No trace?" Carol asked.

"No, sir," the man answered. "But he might have been outside the driveway. I noticed a man standing out there alone. He seemed to be waiting for someone, not looking at the guests coming in, as most of the curiosity seekers do. I went down the driveway toward him, and just then a car drove up, and stopped before him. It was rather dark where he was standing, so I couldn't see what went on. But when I got close to where he had been he was gone."

"And the car?" Carol asked breathlessly.

"It was going down the street."

"Was it a taxi?"

The man scratched his head. "Come to think of it, it was." He turned to the President. "Is there anything I can do?"

Farthing looked at Carol questioningly.

"Nothing, I suppose," Carol answered. "Except to let me know if he returns."

The men turned and left the room.

"I don't want to bother you about this," Carol said puzzled. "But I am sure something must have happened to Pimpkins."

The President Decides

TEN minutes later, Carol was seated with Benjamin Farthing in the little darkened theatre of the White House. Behind them in the projection room they could hear the noisy work of the operator fitting Carol's film into the frame.

In a few moments the man called softly: "Are you ready, sir?"

"Ready," said Farthing. He was a trifle impatient now over the whole matter. If it were not for Carol's wealth and influence and the advisibility of winning this rash youth over from his silly editorial policy, Farthing would have dismissed the whole affair long ago. Now he must go through with it, while his wife and guests waited impatiently for his return.

A square of light played on the screen in front of them, and then a picture formed. To Carol, the scenes of the coming of the disaster and the total devastation of a great metropolis that followed were more than a repetition of what he had seen before. For the clarity of detail brought out by this enlarged picture, served but to show more starkly the overwhelming horror of the catastrophe. He could feel Farthing move uneasily next to him and at times draw in his breath quickly as the scenes moved over the stricken city and the horror of the death and destruction became oppressive.

For ten minutes the picture ran on and then it was over. Lights were flashed on and the two men blinking faced each other.

Farthing's face was grim. He was unaccountably silent, as the operator wrapped up the film again and handed it back to Carol. When the man was gone, Farthing walked up and down the little room.

"I can't believe it," he ground out at last. "It's too horrible." Carol remembered that Blake had used those identical words the night when he had gone with Joan to her house—the night that the Time Projector had entered his life.

"The whole thing is some trick, Carol," he said at last with an attempt at finality.

"And what if it isn't?" Carol asked bluntly.

Farthing stiffened.

"The responsibility is yours, you know," Carol prodded gently.

Farthing brushed a hand across his forehead.

"Carol," he said finally. "I am not inclined to believe in miracles. When I see what purports to be one, I merely shrug my shoulders and say, 'There's some trick, it will be exploded sooner or later.' That was my attitude toward these cloud pictures at first, and so I purposely did nothing about them. Even when the projections went on, week after week, I merely revised my estimate a little, assuring myself, that the trick was even more clever than I had first believed, or that my intelligence was deficient in understanding it. But I had no doubt that it would be ultimately exposed. You know," he said with a smile, "in my position one gets to expect almost anything, even miracles.

"I have had no doubt, until tonight, that the exposure of these cloud pictures was bound to come. And I feel that way even now. I simply can't believe that what you have here is an authentic projection of what will happen four weeks hence. To believe in it would mean to leave my reason entirely behind me. I might just as well believe in witchcraft."

"I can feel with you, Mr. President," Carol said sincerely. "But don't you think that the projections have proved themselves already? Isn't it logical to reason that if a certain phenomenon has happened a dozen times precisely the same way it will happen the thirteenth time?"

"True," Farthing admitted vaguely. His manner was that of a man, recovering from a dizzying blow.

"Let the thing rest for tonight," he said wearily. "Tomorrow I will bring it before the Cabinet. Will you be my guest here?"

Carol shook his head. "I must discover what happened to my man. Frankly I'm worried."

Farthing put his hand on Carol's shoulder sympathetically. "I hope nothing has happened to him. You have my permission to to use several of my men."

Carol accepted the offer and after leaving Farthing scoured the grounds. He again questioned the Secret Service man who had seen Peter disappear, but nothing more could be discovered than that at one moment Peter had been seen standing in front of the White House grounds, and at the next moment he was gone. It was long after midnight when Carol wearily gave up the search. He had now become alarmed, and deep forebodings, a sense of forces working in the dark against him, filled his mind. Going to a hotel he fell at last into a troubled sleep.

AT two o'clock the next afternoon, Carol was summoned to the White House to meet the President.

He had left with Farthing the roll of film, and it was understood that Carol would be notified of the result of the Cabinet meeting, which was to be held that morning.

Carol meanwhile had been busy again in his search for Peter. The more he dwelt upon the circumstances of the night before, the more he was convinced that he had been deliberately followed from New York by someone who had ultimately kidnaped Peter. The thought had flashed across his mind that it might have been the work of Blake, determined to wrest from Pimpkins any possible information that might have linked Carol with Joan's disappearance or with the cloud pictures. Carol hoped that the kidnappers were Blake's men rather than others, for then he could be certain that no harm would come to Peter. Otherwise .... Carol shuddered for he realized now that there were relentless forces working against him, that would stop at nothing.

Farthing had generously loaned his Secret Service men to aid in the search. But they could report nothing to Carol except shortly after Peter disappeared a traffic policeman had seen the taxi *with two men in it* moving northeast through the city. The trail ceased abruptly.

Farthing expressed solicitude over Carol's troubles, and then went on to the results of the Cabinet meeting.

"We all desire," he said, "to use every precaution in this matter. Naturally, however, we must make absolutely certain that this thing is no fraud. You realize, of course, the immense task it would be to evacuate fifty square miles and leave a city of three millions empty."

Carol nodded.

"We have decided," Farthing went on, "to send a Commission to Los Angeles to carry on an exhaustive investigation. The Committee will be composed of the most eminent experts in seismology and they are to report back to me personally."

"How soon?"

"In two weeks."

Carol pondered. Thus far, he could find no fault with what Farthing was doing. Yet, suppose the Commission found nothing. Booth had stated that the quake would come suddenly and give little warning. The Committee would report negative results, and with only two weeks left to carry on the immense task of emptying the city, they would have to begin all over to convince the President of the danger.

"Suppose your Commission finds nothing?" he asked tentatively.

Farthing shrugged. "Then we will do nothing. I cannot take the responsibility for evacuating the city on the basis of a strip of film."

"Very well," Carol said hopelessly. "The job is yours."

They shook hands. "I hope we will be friends," Farthing said sincerely. "And please call on me for further aid in finding your man."

Before Carol left the White House, Farthing agreed to detail two of his men to a continued search for Pimpkins. With the feeling, therefore, that everything possible would be done to find Peter, Carol began his lonely journey back to New York.

CHAPTER XIII.

A Threat!

CAROL'S first act on his return to New York, after communicating the results of his conference to Booth, was to organize a private search for the missing valet. Four detectives were sent to Washington, to devote their time exclusively to a solution of the mystery.

Booth appeared surprised to learn of Peter's kidnapping.

"I did not project your visit to the president," he said regretfully, "and therefore knew nothing of it. If you wish I will try to trace him with the machine."

Carol asked that he do this; and then Booth gave place on the televisor to Joan. He noticed that a change had come over the girl. She seemed chastened in spirit, and occasionally turned around as though she were conscious of grave penetrating eyes fastened on her.

"Are you comfortable there?" Carol asked.

"Quite. Yet I do want to get away, Carol. The atmosphere here frightens me continually, although Mr. Booth is very kind. And I'm so worried about daddy."

"Please be patient for awhile, Joan,"

Carol asked. "I'm sure Mr. Booth will allow you to go home soon."

Joan appeared disappointed that the results of Carol's visit to the President had been so indefinite. "I did hope he would do something for those poor people."

"Don't worry," Carol smiled confidently. "The people will be saved if I have to evacuate the city myself."

Carol was heartened to find a more cheerful attitude prevailing throughout the world. With the projector still showing only inconsequential events of the day, public apprehension of the future was quieted momentarily. People were gradually returning to work, and in financial circles, Carol found, a more optimistic air was prevalent. The arrests of radical agitators following the passage of the "Defense of Property Act" has evidently served to frighten their cohorts, and with a constitutional test of the act impending, and passage of bills in foreign nations held up, there ensued after the storm of the past weeks, an interlude of quiet and waiting.

Carol announced in his paper a donation of $100,000 to the movement to repeal what he called editorially "this extraordinarily ubiquitous bill". The publishing of his gift, however, served to bring down upon him, the full weight of protest from his former associates.

Gerald Bowden visited him one day in the newspaper office.

"Are you mad, Carol?" he asked the young publisher, bluntly.

Carol smiled across the desk.

"I'm trying to save the nation from itself," he said calmly.

Bowden leaned his ponderous bulk toward Carol. "You're wrong, Carol, wrong." He pounded the desk with his massive fist. "You're playing into the hands of these agitators, making them feel that there's division in our ranks, and that we aren't united as we should be."

"Our ranks?" Carol asked innocently.

Bowden slapped his hand on Carol's desk in impatience.

"Carol! Haven't you carried this far enough. You've had your fun. For a young man you've become quite a power. Don't carry it too far, or you will bring ruin on your own head."

"I don't see . . . . "

"Listen to me," Bowden edged his chair closer, his powerful voice sinking with difficulty to a whisper. "I still believe you'll come around, Carol, that's why I'm taking you into my confidence."

Carol stopped him. "Wait. If you do this, remember that you offer your secrets of your own will . . . ."

Bowden drew back. "You mean I can't trust you?"

Carol shook his head. "I don't ask for trust. But, Mr. Bowden, I can't let you tell me your secrets and then feel that by listening I've tied my hands."

"Your father's son," Bowden laughed. "I accept your verdict. If you listen to me and then decide that your course of action is still right, then I have nothing more to say . . . . " he stopped a moment. "There will be nothing for to say for ruin will face all of us."

"Go on," Carol encouraged.

"You've noticed," Bowden said confidently, " that there have been comparatively few arrests under the new law. That was done very advisedly. It was felt in official circles that if we allowed these radical fellows to go into hiding and feel quite safe we could ferret out their intentions.

"Well, we've done that, and we've discovered a startling thing. All over the country the radical, socialistic, anarchistic leaders have been meeting secretly and plotting an armed insurrection . . . . " he paused.

"Go on," Carol said calmly.

"As you know there have been tens of thousands of young men and women, with bad training no doubt, who profess antisocial, political and economic doctrines. These young fools, have been allying their forces now with the left wings of their parties, and playing into the hands of those who place all their faith in violence.

"We have been watching them carefully," Bowden smiled, "and we know just what they're about. They have scientific men in their numbers, concocting queer contraptions for warfare. They've been accumulating weapons . . . . That much we have learn-

ed. How they plan to operate we don't know. But Carol," he said ominously, there's no doubt that if we don't present a united front, these fools are going to start out some morning and blow up the country . . . . " He glared at Carol in defiance.

"ARE you surprised that this is occurring?" Carol asked.

"Surprised? I'll tel you what surprises me. It's just your conduct, Carol, that is encouraging these revolutionists. They point to your paper and say among themselves: 'Here is a scion of one of the wealthiest families, aiding us. That means that the financial interests and the government are divided. All we must do then is to strike and their power will crumble.' You are causing this, Carol."

Carol shook his head decisively. "Oh, no, Mr. Bowden. You can't tell me that." He leaned across the table. His manner was icy calm, his voice full and clear. He had a deadly determination in his manner.

"You can't tell me that because the powers that be have pursued a pig-headed policy, that I must tamely submit to it. It's the deadly alliance between business and government in this country that I'm determined to break down, that has caused the situation you describe.

"You may be surprised at it. I am not. It was only the logical fulfillment of what you started. You believed that these radicals would creep to their holes and die there. They evidently won't do it. They shouldn't do it. I don't want any armed insurrection more than you, but I say if that is the alternative to tyranny let it come!"

He stopped and wiped his face, trying to restrain his mounting feelings.

Bowden staring at Carol in amazement, during his discourse, squirmed after Carol had finished. "I admit," he said hesitantly, "that the law was a mistake. I never believed in it. It was the fanatics, those old men who are always seeing red who pushed it through. But now it's done. We must go through with it. Any sign of weakness now would be fatal."

"That's just it," Carol burst in angrily. His face for once was red, his hand stretched out toward Bowden quivered. "Every word you have said proves your guilt. It's just that code, 'we must go through with it,' that will be responsible for any ruin that comes. I tell you, Mr. Bowden, your words just now, prove to me conclusively that you and those associated with you have demonstrated your inability to lead this nation. Your set of social ideas, your mental makeup is the greatest danger the world has . . . . "

Bowden rose angrily. "See here, Carol, you're going too far. I have given you warning. It's your own money, and the nation's. But you're going to ruin us . . . You're going to ruin us" he repeated and turning he stalked from the office.

Carol dropped back to his chair, half laughing, half crying. He had never believed he could become so excited over any cause, but the ponderous, inertial bulk of Bowden had at last maddened him. He determined that he must control himself more in the future.

* * * *

Carol was worried by the ominous silence from Blake, for he had heard no more from the lawyer after his last threatening visit. Carol knew that Blake was just as incapable of dissimulation as he. Carol could not ask if Joan had returned, feeling meanwhile his total insincerity. And if Blake really suspected him of complicity in Joan's disappearance, Blake would not call upon him and pretend ignorance. So they were both forced to play a waiting game.

But Blake would, Carol knew, pursue the search for both Joan and the Time Projector with all the power at his command. Carol accordingly established guards about his home, and warned Booth to greater precautions in his dealing with the outer world.

A week passed after his visit to the President, and no word came from Pimpkins. The work of the detectives in Washington, as well as that of the President's agents had yielded only one clue. The taxi bearing Peter and his two captives had disappeared from the face of the earth, the driver himself being reported missing! That the captors were men so confident of themselves as to carry out this kidnapping at the very threshhold to the White House, indicated to

Carol that the forces behind them were possessed of great power. He feared for Peter, yet he was resigned to a long wait for the return of his genial servant.

"Guns Won't Fight It"

TWO weeks after Peter had disappeared William Blake sat in the library of his Hastings home, impatiently tapping the arm of his chair. He expected at any moment his chief investigator, Hingston, and felt that the man's report would bring to a climax the weeks of wearying search for the Time Projector, now intensified by Joan's prolonged mysterious absence.

How he had come to associate Carol with the exhibitions, he never understood fully. His mind working logically, had come to the theory that Carol might know something about them. There were many facts to lead him to this conclusion. It was evident for example, that the mysterious change in the boy had occurred almost coincident with the coming of the pictures. The guileless, though studious, youth uninterested in the world's affairs had suddenly emerged as a man, bearing within him some terrible secret, and animated by a sudden determination to change over the world.

How could this change have come about in Carol, without some external force, and what force could it have been? Blake had pondered this question through long nights, his mind refusing despite all logic to associate Carol with the monstrous exhibitions. But it was only when he had come upon the existence of the man Booth, and encountered Carol's mysterious reluctance to help him, that a sudden flash of suspicion had crossed his mind.

The disappearance of Joan had only added fuel to his feelings. It was queer that Joan was missing directly after he had determined to actively begin his shadowing of Carol. The connection between the two eluded him, yet he had no doubt that when the mystery of the time projector was solved that he would again see Joan.

It had been the idea of Hingston, his chief operator, to kidnap someone close to Carol. Hingston had explained his plan carefully and in detail, and despite his instinctive revulsion, Blake could not but agree that the plan was masterly in its possibilities.

So he had finally agreed to it, on the condition that no harm was to come to the captive. Pimpkins, he suggested, should be the first victim.

"For if Carol is involved in the secret, if his father was, then Pimpkins will be," Blake had said with a penetratingly correct insight.

Two weeks had passed since Hingston had carried out of the Blake mansion his new orders, and only today had he telephoned that he had news of importance. If only, Blake thought wearily, something could be discovered. This strain of waiting and waiting, and thinking and thinking endlessly was daily growing on him. He doubted how much longer he could stand it. He was not fooled by the apparent change in the exhibitions on the cloud. He felt sure that it was part of a prearranged plan and that the world had still the greatest shocks of all to suffer from "the accursed exhibitions."

Impatiently, Blake walked to the outer doorway, and walked up and down on the wide, green velvet lawn. He saw the long serpentine road twining south over successive hills to New York. Below him tumbling down, cliff by cliff, were the ramparts above the green gilded Hudson. Across the river stretched above sheer brown cliffs, the peaceful wooded Palisades. It was a scene of peace, and strength and the promise of life both beautiful and wise. Yet there hung even in this warm, sweet air the portent of chaos and disaster. Blake shuddered.

The distant sound of a motor attracted his attention and looking southward he saw the dot of a car, rising onto hills and disappearing only to reappear, hundreds of yards closer at another hilltop. Two minutes later he recognized the low grey touring car of Hingston, and watched with growing eagerness as it reached the driveway of his estate and came slowly toward him.

Hingston, dust covered and weary, jumped out and shook Blake's hand. "Well, I'm here!"

"Come indoors," Blake said shortly.

Though he insisted that the operative wash and refresh himself before making his report, Hingston shook his head. "You must know this at once, sir."

Blake motioned the man to a seat, and offered him a half glass of whiskey and then a cigar, which Hingston took eagerly.

The detective allowed himself the luxury of a few puffs on the cigar before beginning. "I think I have the heart of this mystery, Mr. Blake. In telling you about what I've done I think it's best to give you the chronological account, so that you can understand just what has happened. Don't hesitate to interrupt me."

"Go on," Blake nodded.

"When you had agreed to my plan, which might have been far-fetched," Hingston began, "I imediately laid plans to shadow Dunfrey and Pimpkins. I got my chance one night two weeks ago when they started out together on what turned out to be a trip to the White House at Washington."

Blake started in surprise but did not interrupt.

"Moseley, who was watching the Dunfrey house, got me on our radio at the river where I had my amphibian in waiting, and I immediately took to the air with Brown and circled about waiting for Dunfrey to start. Following him by a couple of miles we reached Washington and I had barely time to catch a taxi and chase behind him to the White House.

"Just as he reached the outer gates, he gave me my chance. I saw Pimpkins get out and stand in front of the gates. Dunfrey went on into the house.

"I had to make my plans on the instant. Drawing up to the curb, I called Pimpkins. I saw his face become suspicious, and then I added, 'Hurry'! He came over to the car and Brown reached out his gorilla arm and yanked the fellow in. Prodding a gun into the driver's ribs I ordered him to drive north quickly. Brown had already chloroformed Pimpkins and we kept him in the bottom of the car.

"Outside of the city, we knocked out the driver, poor fellow, and with both of them in the bottom of the car we drove north to Maryville, N. J., where we had planned the second part of the episode.

"IN separate parts of the house we had rented, we kept the two men. When Pimpkins demanded indignantly that he be set free, we told him that we knew he was Donald Ferrar, a wealthy sportsman, and we wanted him to get twenty thousand dollars ransom before we would set him free."

Blake relaxed his intenseness to give a hearty laugh.

Smiling, Hingston went on. "He protested that we were mistaken, that he was only a poor valet. We laughed at him and told him he would he held until we received the ransom.

"For ten days we held him, according to our plan. Then one afternoon, we were ready for the next step. Brown brought up his meal to Pimpkins' room and pretended to be drunk, and kept asking Pimpkins for me, saying that I had deserted him. Brown began to get more and more groggy, as he continued to drink, and then, as we expected, Pimpkins hit him with a convenient stick and Brown fell unconscious.

"Hiding in the orchard I watched Pimpkins rush down the road toward the nearest house a half mile away. There, King, another of my men was sitting on the porch, waiting for him.

" 'I want to use the telephone!' Pimpkins bawled at him. King led him into the house, then came outside to give me the signal. I jumped to the tapped line in the orchard and listened to Mr. Pimpkins. He was talking to Carol Dunfrey on the long distance.

" 'This is Peter,' I heard him say, 'I've just escaped! There was a silence and then Dunfrey's voice: 'Good for you, Peter, where are you?' When Peter replied that he didn't know, Dunfrey suggested that he find out and then come to join him. Pimpkins then said, alarmed. 'I'm afraid to join you, sir, I think that a bad gang is after us.' Dunfrey hesitated, and then said, 'Very well, Peter. We'll meet at Carr's north by west, tomorrow at noon. If you can't make it telephone me again. Be sure you are not followed.'

"Pimpkins hung up, and then after pay-

ing King for the call asked for a ride into town. We followed him to Jersey City, New Jersey, and the trail ended for the time at Carr's, a little old book shop."

Hingston paused to look meditatively at his half-consumed cigar, and then continued.

"At noon, Dunfrey met him there, and together with Carr they disappeared into the back of the shop. Fifteen minutes later, Dunfrey and Pimpkins drove off.

"Dunfrey's designation of the place, 'Carr's, north by west' intrigued me. Telling Brown to keep on Dunfrey's trail, I decided to investigate Mr. Carr. So an hour later I entered the shop and browsing around tried to discover what might be in the back of the shop, meanwhile engaging Carr in conversation. He's a shrewd one, sir, and no more a bookseller than we are. But I couldn't discover a thing.

"I trailed him for a whole day before I got my important clue. I found that his son had a private landing field in the air freight section of Jersey City and the boy took off at three in the morning in a plane heading south. That looked rather peculiar so I waited for the next journey, which occurred two days later. Then I was ready. I had hired a little landing field, a quarter mile away, and when the boy took off again I was ready for him.

"I followed him south past Washington, then west and finally, he turned south again over West Virginia. It was easy to follow him at night, but when dawn broke I hung back some ten miles, afraid that he might see me. Then the thing happened. I saw his plane as a little dot begin to circle about, and then slowly drop down. Then, believe me, sir, the plane disappeared!"

Blake sat upright. "Disappeared!"

Hingston licked his lips nervously "It disappeared," he affirmed. "One moment I saw it and the next I didn't. I waited for a few moments and then flew straight ahead over the same course; and when I had reached the section where he had faded away, as it were, there was no sight of him. The country there is so broken up, that it wasn't possible for even a modern plane to land. I searched the ground carefully, for even if he had landed he couldn't have escaped notice. It's very funny, and I think that we're getting close to what we're searching for."

Blake was lost in thought. Hingston's story had made a profound impression on him. He suddenly lost his weariness and felt a new tingle, the thrill of the chase that he had felt the first days of his search for the Time Projector. In those hills, he was sure now, must be the heart of this terrible mystery.

But now, there was need of the utmost of tact and shrewdness. The hunt was entering its most intense stage, and upon the developments that followed might hang the fate of Joan herself. There could be only one course of action.

"I want to see this place," Blake said shortly.

"Be glad to take you. We can start anytime."

"No, alone," Blake explained. "Just tell me how to get there."

Hingston drew out a map, and spreading it on his knees traced the course of his plane from Jersey City to the Blue Ridge. He drew a little circle about an area of West Virginia.

"This is where the plane disappeared."

Blake got up. "You've done marvellously, Hingston," he said. "Now it's my turn. I start out in the morning."

"Better go well armed," Hingston advised. "It's a wild district."

Blake smiled. "Guns won't fight this battle," he said cryptically.

But Hingston shook his head doubting.

CHAPTER XIV.

"There Is Nothing I Can Do"

TWO days after Peter had returned, Carol received a summons to the White House. A conference with the president was arranged for three in the afternoon.

Carol traveled to Washington in a state of fearful expectancy. With the Los Angeles disaster only two weeks away, the knowledge of the horror of it weighed crushingly on him constantly. He could not be-

lieve that the president would not fail to take the utmost of precautions, yet in his saner moments, Carol realized that he could expect no assurance of any action.

Farthing greeted him coolly in the president's office.

"I want to acquaint you, sir," Farthing went on, "with the results of the Commission's investigations of the Los Angeles territory."

Carol looked at the man steadily. Farthing's manner confirmed his worst fears. He would do nothing.

"The Commission," Farthing continued, "was requested to search for any evidence that a quake might be impending, and for that purpose the most modern of scientific instruments of detection were used. I tell you this," he said with an air of patience, "so that you shall know that nothing within reason has been overlooked.

"The Commission, frankly, has found not a shred of evidence that the danger your film has pictured actually exists. You can understand therefore," he finished determinedly, "that there is nothing that I can do."

He looked at Carol enquiringly.

"You realize what this will mean if the disaster does occur?" Carol asked bluntly.

Farthing nodded. "Don't think I am an utter fool. I haven't dismissed the matter. I have asked the Commission to continue its investigation for two more weeks, until in fact the very day that the disaster," he smiled, "is to occur. I believe that I can do no more."

Carol felt the utter futility of words. He was depressed beyond all reasoning.

"You won't do anything then," he muttered, getting up.

Farthing shook his head. "Not until more definite evidence is presented." He seemed to notice Carol's depression and his manner softened for a moment. "Don't take this too hard, Carol. We are passing through troubled days, the whole world is upset, and we must all bear our disappointments patiently."

"Patiently!" Carol's mood swung abruptly to violent resentment. "You will wait patiently until these people begin to die like dogs, and then take some futile last minute measures. You will allow them to die, and then say piously, 'We did everything we could, we didn't know.' Patience! We've had too much of that. This is a moment for vision, for seeing into things and into the meaning behind them. You are incapable of doing that, Mr. President, and because of it, millions are going to die. Goodbye!"

He turned away and walked abruptly from the room.

* * *

Moving aimlessly through the streets of Washington, Carol felt his will withdrawn from him entirely. He walked without volition, without the power to direct his steps. Booth was right and he was wrong. He had had too much of childish faith in his world and in the men who governed it. Perhaps he had been unnecessarily forthright in his denunciation of Farthing, yet at that moment it had suddenly come to him in a vivid flash how infantile, how helpless, how shortsighted were the minds that controlled the destinies of millions when a great emergency arose.

Wasn't it all hopeless? The Time Projector had shown him how desperately man needed guidance. Yet the Time Projector, by Booth's own words, would not be man's forever. Assuming this disaster could be averted now by some act of his own or Booth's. What then? There was this terrible war looming twenty years in the future. And if man escaped that by some miracle and managed to retain some hold over his civilization, how would he meet the other terrible dangers of his daily existence when there was no Time Projector?

Carol's impulse at the moment was to cease trying to stem this horrible tide of human misery. Why not? Go away with Joan somewhere, to some cool restful place; he could buy a little island, and there live out their existence far from the hysteria of modern life. Perhaps, when the holocaust of that war was over, they might come back and begin a new race of men.

Carol shook his head hopelessly. It was no use, he must go through with this. There was nothing to be done now but to notify Booth and project the pictures of the quake.

He turned slowly toward the flying field and late in the afternoon started westward toward the cave.

It was one hour later when he reached it. His last sight was of the sun, dipping, a bright molten ball, behind the western reaches of the Blue Ridge.

Booth did not come to meet him as he got out of his plane at the cavern floor. Instead, George was there. The boy's tanned face was flushed with excitement, his manner nervous, uneasy.

"What is the trouble, George?"

"Why—nothing, sir," the boy stammered, "you'll find Mr. Booth in the projection room." With those words, he took Carol's grip and made off hastily toward Carol's room.

CAROL lost no time in seeking out Booth, whom he found seated at the projection table, eyes pressed against the binoculars. Booth turned and rose quickly as Carol entered. Carol saw at once that his manner too was strange. What could have happened here?

"I've just come from the president," Carol said soberly. "He will do nothing."

Booth did not seem disturbed. "I expected it, Carol," he remonstrated gently. "Now we must get to work."

"When?"

"The first projection tomorrow," Booth answered grimly. "And one every other day until the day of the quake."

"That means I must get back to the city immediately," Carol pondered. "It's going to be a task to keep things in order there. There's bound to be trouble." He shrugged hopelessly. "I want to see Joan, then I'll be back again to talk over our plans." He started for the door.

"Wait," Booth called. "Carol," he said calmly, "Mr. Blake is here."

Carol gasped. "Blake! You. . . ."

Booth shook his head. "He came of his own volition. I knew that he would."

"Did anything? . . . ." Carol began alarmed.

"He's all right," Booth interrupted assuringly. "You'll find him now with Miss Blake."

"Excuse me," Carol said hastily, and half running through the passageways he made his way to the street and then to Joan's quarters.

His mind was a turmoil. What could Blake's appearance, his voluntary appearance here mean? Had Blake really found the place himself and come determined to join with Booth; or was it to threaten Booth? He asked these and other questions as he reached Joan's quarters and rang the bell. Joan herself answered. She gave a cry of surprise and threw her arms about Carol's neck.

"Carol! Now I have you both." She covered his face with kisses, laughing and crying by turns as she pulled him indoors. When she released him, he saw Blake standing there. The man's face was quiet and impassive, his manner neither hostile nor friendly. He regarded Carol questioningly.

Joan stood looking from one to the other, then she took Carol's hand. "I've explained everything to Daddy, Carol. He knows that you're not to blame."

"I'm glad of that, sir."

"That's over now," Blake said evenly. "Joan is safe and I'm content."

There was an uneasy silence.

"Have you been here long?" Carol asked hesitantly.

"A few hours," Blake said dryly. "Like Joan, I am an involuntary guest."

"But, daddy," Joan interposed. "You came of your own accord."

"So I heard," Carol said. "How did you find us, sir."

"It's a long story." Blake shrugged. "But since I am out of the chase now, there is no reason why you shouldn't know." He went on then to tell Carol of the kidnapping of Peter; Hingston's visit and his determination to visit this district alone in order to decide for himself what should be done next.

"As I flew over the mountain above us, I saw the top open, and when I had recovered from my surprise, I realized at once that this was what I sought and that Joan must be here. There was nothing to do then, in order to find Joan, but to descend and fol-

low my adventure through. So here I am. Mr. Booth was evidently expecting me."

Although one of the weights on Carol's mind had heen relieved now that father and daughter were together, he could not help hut feel apprehensive as to the outcome. In this cave there were now two giants of intellect, Booth and Blake, whose whole lives set them in a position of violent antagonism. A clash was inevitahle, in fact it came over Carol's mind with a flash that the whole adventure of the Time Projector was now moving toward its most terrible crisis. A heaviness of spirit, such as one feels before a violent thunderstorm, filled his being.

"Have you met Booth?" he asked at last.

"No," Joan answered. "George met daddy when he landed. Mr. Booth sent word that they needn't meet at all unless daddy wished. . . ."

"But that he would he glad to see me, if I cared to," Blake added grimly. And I do care to."

CAROL pondered. He knew Blake too well to think that he would try any violence against Booth. Yet on the other hand he could not conceive of Blake tamely suhmitting to imprisonment and admitting his mission in life to be a failure. There was the possibility that he might try to damage the machine.

"I hope that you will accept your stay here with good grace," he said earnestly. "You'll find Booth will make that easy for you."

Blake nodded. He seemed not so sure of himself as he had been weeks ago when he had told Carol how he would smash the Time Projector.

"Joan has told me about the earthquake, Carol. Did the president listen to you?"

Carol shook his head sadly. "He will be investigating it until the earth heaves up and buries his investigators and the city alike."

"You can hardly blame him," Blake bit his lip. Then his face brightened. "Let me go to him, and tell him what I know."

"It's no good, sir," Carol said hopelessly. "He would think you were mad too. We could only convince him by bringing him here."

Joan clapped her hands. "Bravo! It's just the thing!"

Blake grunted. "What then? He will see the projection, and then you must let him go hack to Washington. What should he do after the city is saved? Won't he hunt down you and your friends and wipe you out of existence?"

Carol gazed at Blake steadily, as he noted the violence of the man's feelings.

"You mean you are still opposed. . . ." Carol began.

"Still opposed," Blake said firmly. "I can see that in this disaster, Booth should project it. But then the Time Projector should go. . . ."

"And what about other disasters?" Carol asked coldly.

Blake raised his hands. "We must face them. That's what life is, trial and error, uncertainty and confusion. It's what gives us our driving force, the overcoming of these difficulties. No," he shook his head. "The Time Projector is a monstrous thing and it must go. Man must he allowed to work out his destiny slowly, free from its influence."

Carol was in no mood to dispute with Blake. His whole heing now was concentrated on what lay before the world in the projection of the disaster, and the work that was cut out for him.

He remained at the cave overnight at Booth's urging though he did not see Booth again until he left. He did have the chance, however, to spend three whole blessed hours with Joan, as they walked that evening through the streets of the encampment, hetween the little white houses whose windows glowed yellow with soft lights.

It seemed to both of them that this place with its strangely diffused lights, was a world to which they had, in some strange dream, been transported. It was a place of a trial and a testing of them—which they must meet to prove themselves worthy. They felt themselves like immaterial shadows, in a city without life. As they walked together through the silence, they hoth

seemed afraid. Joan voiced her fears. She grasped his hand.

"Carol, take care of yourself when you go back!"

Carol patted her hand. "It's all right. It's not I that we must worry about." He groped to express himself. "I want now, as I never wanted, divine power. I want to stretch out my arms to the world and tell men what they must do for their own happiness. I want them to listen, because they believe me, and then to do those things that are right. But I feel so weak and helpless and futile." He pointed to the house below which rested the Time Projector. "There is the power, but how to make it understandable to men," his voice trailed off. . . "I don't know. . . ."

Early the next morning Carol set off. Joan clung to him before he entered the plane. "I'm afraid Carol. . . afraid. . ."

CHAPTER XV.

The Bomb Explodes!

IT was on July 27 that Carol returned to New York, and the evening of the 28th when the first projection of the Los Angeles earthquake occurred.

Though he shuddered at the thought of seeing the exhibitions again, he determined that he must, to gauge correctly the temper of the mobs who would be there. But he hardly expected what finally occurred.

Booth had chosen for the place of the exhibitions Washington Square Park. As usual Carr would send out the cloud from its Yonkers base and it would travel over the city under his remote control system to its appointed place, to be above the Park at eight o'clock.

The night was a fine one—warm, cloudless—the streets and Park alive with after-dinner strollers. The Park itself was cool and grassy, the lawn and walks filled with playing children.

At a quarter of eight, Carol was seated in the Park, watching the children with an eager interest. But as eight o'clock neared he wished desperately that they would go away. Several times he got up and approached a group to tell them to go home, but as he stood facing them, unable to form the words, and they gazed at him curiously, he returned slowly to his seat.

At five minutes of eight, looking northward, he saw the cloud floating slowly over the city. It had been seen by many others already, and crowds were forming, their gaze directed, fascinated, on the white shape; asking each other eagerly where it would stop.

As it became evident that the cloud was headed toward the Park, there came from every side street of Greenwich Village, from Fifth Avenue, floods of running people, looking apprehensively as they ran, at the nearing white bulk. There was little talking among them, but rather a ominous, feverish curiosity so different from their temper at the first exhibition Carol had seen.

Already among the shifting hordes policemen were seen, attempting angrily to drive them from the park. But as the crowds increased by the hundred and they held their positions obstinately even the officers were lost hopelessly in the flood.

The cloud had reached the northern border of the Park. It was some three hundred feet up, and slowly it settled to rest above the crowd and remained motionless. There came suddenly from the midst of the great throng, as at a signal, the shrill whistles of the policemen. Twenty feet away Carol saw one policeman draw his whistle away from his lips and then attempt to again beat his way through the infinite wall of people.

Angry cries rose from the crowd. "Get that guy! . . . . Beat him up! . . . . Down with the police! . . . "

Carol groaned as he saw the policeman swallowed up in the mob A hundred feet away he saw another struggling group, and then, sudden as an explosion, there came the sound of a shot, followed by a shrill scream. There was a moment of silence and then rising to a full volume of a breaking storm came a thunder of angry curses and imprecations.

In a moment, there came the sharp cutting whine of a siren, and Carol saw flying down the Avenue toward them a dozen cars filled with policemen brandishing revolvers and

rifles. The thunder of anger of the multitude changed to fear and there came violent movements as men, women and children in panic attempted to escape from the Park.

Looking down upon this scene, the cloud floated calm and majestic. And as the police reached the Park and leaped from their cars, the cloud took on an intense glow and gradually a picture formed. To Carol it was the old story, the old repeated story of horror, destruction and agony that shifted on the screen. And gradually as the meaning of these pictures became clear to the watching thousands, all movements among them ceased, even the police were motionless gazing hypnotized at the vision of an unseen giant destroying before their eyes a great metropolis. Ten thousand people with upturned faces stricken with terror, stood like frozen statues as the scenes ran on remorselessly . . . .

There was a cry of agony from the crowd, that was instantly silenced as the pictures neared the end. Then another cry and another, until there arose to the still night air a thunderous chorus of shrill cries. The police seemed to awaken. Brandishing clubs in one hand and revolvers in the other, they battered their way into the mobs, shouting to them to disperse. At first the crowds, now thoroughly angered, fought back. But as car after car in an endless stream rushed down the avenue bearing loads of police, the ranks at last broke before the onslaught and began a mad retreat.

Carol was carried away in this human avalanche, this flood of frenzied, fear-stricken human faces. He heard shot after shot followed by screams and curses, then low moans. Like leaves before an angry winter wind, the thousands flew before the army of victorious police. Ten blocks away, Carol paused breathing heavily and stepped into a nearby house.

* * *

For the first time in two weeks, the exhibitions of the Time Projector occupied the first pages of all newspapers the next morning. With horrible clarity, the story of the exhibitions, the riots and the nature of the disaster that overhung Los Angeles, were spread before the eyes of the city's millions.

Over wires, cables and radio the story had already gone around the world, and the newspaper despatches that morning reported the streets of Los Angeles filled with dazed, fear-stricken throngs. A thin trickle of exodus from the city had begun and, said the despatches, the people as a whole, "seemed walking in a dream of vague terror and wonder."

A meeting of the president's cabinet had been called, and it was reported that martial law was possible for New York.

TO Carol, reading the newspapers, it seemed that the whole nation was dazed. There were, of course, loud editorials calling upon the city, the state and the nation to do this or that, but in general there was an air of wonder, suspense and unknown dread in the writing of editors. It seemed as though the full significance and meaning of the exhibitions, the inexorableness of the disaster had not fully been realized. In his own paper, however, prepared in advance, there was a front page editorial, calling upon the president in blunt terms to order an immediate evacuation of the city.

"We cannot blind ourselves," it said, "to what these exhibitions mean. We have seen them before, we have understood that they spell fate. To hesitate, to equivocate now means only prolonging the hour of inevitable action, and endangering the lives of three millions of people. I call upon the president to take steps at once to evacuate the city orderly and to make provisions for food and shelter for its people. Any step short of this is equivalent to the negligence that means murder. . . ."

If anything were needed to explode the bomb of the city's fears, Carol's editorial did it. His offices were surrounded by mobs of people cheering and cursing, and between the factions in these crowds there came a riot that ended in a combined onslaught on the police who rushed down upon them.

In his office, Carol nervously called for a line to the President of the United States, to give Farthing a last chance to act. His name must have worked magic, for in a few moments he found himself facing the cab-

inet room of the president. He saw a long table about which sat ten frightened, flush-faced men.

The president's face was purple with anger as he looked at Carol.

He shook a fist through the televisor. "You are a public enemy!" he shouted hoarsely. "I order you under arrest. Remain in your office!" As Carol saw him turn to a button at his desk, he at once shut off the connection and snatching his hat ran from his office. He had no fear of Farthing, nor of his life, but he saw now that for his cause alone, he could not allow Farthing to imprison him.

The streets were choked with people, among whom the police moved as impotent pebbles. As Carol reached his car, he saw far down the street the beginning of a column of soldiers! Martial law already! The beginning of the end!

A mile away from his home, Carol parked his car and walked the rest of the way on foot. He called Peter in to him.

"I'm under arrest by the president's orders, Peter," he said smiling. "Now I want your help."

"Anything, sir."

"They will be looking for me here soon, and you are to tell them that I have not been here. Allow them to search the house, and when you are sure they are gone, come to my father's room and rap on the middle panel of the east wall."

"I understand, sir."

The next half hour, that Carol knew would be his last of freedom, he spent in telephoning to his office to issue orders for the carrying on of the paper. It was noon, and no word had come yet from the closed room in which the president sat with his cabinet. The militia, Carol learned, had been ordered out in Los Angeles also, and the situation there was growing worse hourly.

With the crunching of an auto on the driveway outside the house Carol dropped the phone abruptly and bounded up the stairs to his father's room. Behind the panel, which he closed after him, he secreted himself while he heard through the house the heavy steps of his would-be captors. . . .

In other circumstances, Carol would have appreciated the bizarre character of his adventure, and its flavor of melodrama. But now he saw too soberly the vindictive temper of Farthing and the coming of chaos into the world, to find any humor in his position.

From now on, he was a hunted man and his work if done at all must be done from under cover.

Fifteen minutes later after the sounds of heavy feet had ceased, Carol, sitting in the darkness of the alcove, heard a gentle knocking on the panel.

"Yes?"

"They've gone, sir," he heard Peter's voice.

"Very well, Peter. Now go downstairs and keep watch."

Carol opened the radiovision set and adjusted it for his connection with Booth. The face of one of Booth's men appeared on the screen and nodded when Carol asked for the chief.

When Booth appeared his face was deeply lined with worry. Carol sensed, for the first time, a crack in the man's iron will.

Carol told briefly what had occurred, and then added. "I'm afraid that my paper will be suspended. How can I help?"

"There's little that you can do now, Carol," Booth said wearily. "The world seems to be going mad. You can come back here if you wish."

Carol shook his head, even though he wanted desperately to accept this release. "I must stay here and watch things. Tell me," he burst out, "what do you know? Will the president heed the exhibitions?"

Booth's face became grim. "I don't think I had better tell you. But the story isn't a happy one." His voice softened. "Come back here as soon as you wish, Carol." He uttered the name so slowly, so like a caress, that Carol stared at him. A love for this old man was stirring in him, as he saw the affection that Booth held for him.

He caught himself. "I'll come soon," and then shut off the connection.

The Menace from the Air

FOR the rest of that day, Carol prowled about the house impatiently waiting, al-

ways waiting for some news from Washington. Each half hour Peter telephoned to the newspaper, and always there came the reply "no word yet, the Cabinet is still in session."

At last, at five o'clock news came. The Cabinet meeting has been concluded, and it was reported, "a Committee of Investigation is studying the possibility of a quake in Los Angeles." The Committee, the president's statement went on to say, "would fully determine if there was any danger, and if so full precautions would be taken for the safety of the population." The statement closed with a note of confidence in the Commission and a plea for suspension of judgment on the part of the people until the danger could be ascertained.

Carol laughed wildly as Peter told him this story. So that was how the public was being deluded! Day after day would pass now in suspense until, in a panic of fear the authorities would take some foolish last minute action!

At eight o'clock that evening, Carol learned that his newspaper office had been taken over by troops and publication suspended. This meant then, that the situation had become so desperate that the government could no longer allow unbridled criticism of its actions.

Gathering together all available funds in his house, Carol packed a bag, and refusing Peter's help, he set out late that night to find lodging. He told Peter that the best service could be rendered to him by remaining at the house and watching developments there. He showed Peter how to operate the radiovision set to the cave, and admonished him to keep in touch with Booth. He himself would call the house twice every day to learn what had occurred.

By preference Carol took a little furnished room in a midtown side street and fell wearily asleep.

A crisis, Carol realized the next day, was bound to occur soon. For the second exhibition of the disaster now ten days away was to be shown that very night. And Booth had determined to project now the more detailed scenes of the carnage and destruction to be wrought by the quake.

Purchasing a paper at noon, Carol learned that the Cabinet had been called into session again, and some word of definite action was expected that day. The editorials of the newspapers were more and more vague and as yet none of them were calling determinedly that the president order Los Angeles evacuated.

New York had evidently been quieted by the troops that patrolled the streets, though the city wore an air of extreme uneasiness. Although there were no disorders, and crowds were broken up by soldiers with fixed bayonets, the atmosphere was ominous and expectant. Everyone waited for the evening to come. Would the exhibitions be continued and what would they show was the question asked everywhere?

To Carol, the long afternoon wore along with a terrible slowness. From Peter he learned by telephone that no search had been made of the house again, although Peter could see men patrolling it with studied carelessness from every side, beyond the grounds.

No word had come from Booth.

The evening papers brought the first news of the president's conference. Although the tone of the statement was less confident than that of the day previous, the president said that since no real danger had yet been shown and the Commission had not yet reported, no steps were to be taken to evacuate the city.

"In any event," said the statement. "We are prepared, and there will be ample time for effective action."

Carol, reading the paper in a cheap restaurant, laughed nervously. He looked up suddenly to see the eyes of the diners fixed on him questioningly. Fearfully he arose and his meal unfinished, he paid his bill and left the place. He knew now that with the constant strain of his false position, his mental state was becoming erratic. He felt constantly that he was being followed, he saw the eyes of passersby fixed suspiciously upon him.

He returned to his room and waited there until a quarter of eight, when he set out for Bryant Park where the exhibition of tonight was to occur. Armored cars, reminiscent of

war days, pounded quickly through the streets, with machine guns protruding menacingly from turrets. Troops marched everywhere, vigilant, and alert. In Bryant Park itself was a military tent, outside of which a dozen soldiers lounged.

Looking upward beyond the tops of the surrounding buildings, Carol saw with uneasiness hosts of trim military planes patrolling the air above the city. What could it mean?

HE seated himself on a bench and waited with pounding pulse for eight o'clock. Dusk was beginning to creep over the city when suddenly from the west be beard a rising storm of shouts. Everywhere he saw the soldiers stiffen to intentness. Crowds gathered, only to be broken up. Nearer and nearer came the cries until Carol saw floating down from the west the white, puffy cloud. Then he heard, coming closer, the strident roar of the planes.

The troops at once formed ranks and with fixed bayonets advanced to surround the Park. Everyone was being ordered from it. The cloud had already settled at rest and at once pictures formed on its surface.

The pictures that were shown now were from the very level of the Los Angeles streets; and as the view moved from street to street, showing the blazing of fires here and here among the wreckage, the crushed bodies, and raving masses of trapped people trying vainly to escape from gutted streets, the horror of it became unbearable. Carol fascinated by the scenes, hardly beard the word of command to move on until the sharp jab of a bayonet brought him to attention. He saw then that the sullen mobs were being moved east and west beyond the Park limits, and he became acutely aware now of the thundering roar of planes as they swooped down upon the Park from all sides.

With a bayonet plodding his back, Carol moved from the Park and began crossing Forty-Second Street, where five hundred feet away a line of soldiers had formed. With a gasp of horror he understood. For just as the last picture had flickered from the cloud and it rose gradually upward, be saw the planes swoop suddenly down, and at once from all of them there came a staccato burst of machine guns directed upon the cloud. Pressed close to the cordon of soldiers, Carol heard wild shouts behind him and saw the people, who until now had been pressing forward in eagerness, rushing madly away. Slowly the line of soldiers was falling back.

The firing went on as the planes rose and dived about the rising cloud. But so far they had made no impression upon it. Faster and faster came the clatter of their guns, until at last they suddenly ceased fire. The planes rose swiftly above the cloud, as at a sudden silent command, until one plane alone was close to it. Then something happened, swiftly.

Carol saw something black hurtling through the air. He heard a thunderous roar, a second of splitting universes, cries of warning . . . . something struck him. There came engulfing darkness and he slid into unconsciousness.

* * *

Carol struggled to wakefulness in a sea of whiteness that materialized after a few dizzying minutes, into a hospital ward. He lay quietly collecting the tangled threads of his memory—why was he here. He tried to rise and groaned softly, as his skull seemed to contract about his brain. A nurse slipped to his side.

"You must lie quietly," she admonished.

"Yes!" Carol mumbled. "What happened to me?"

"You were hit with a bomb splinter. Don't you remember?"

Slowly Carol did remember. Then the black thing had been a bomb. He shuddered.

"And the cloud?" he asked anxiously.

"The cloud? Oh! yes, why that was destroyed by the bomb."

Carol sat upright, despite the torturing pain in his head. Destroyed?

Then the exhibitions? Why they could not go on since Booth had ready no means of replacing the cloud. What had happened in the meantime? How long bad he been here?

"What date is this?" he asked suddenly.

The nurse looked at him curiously. "Why it's August second."

Carol groaned. Then he had been here three days. One week more before the quake!

"What had he president done?"

The nurse patted his head. "Now you must lie quietly. You aren't well yet, you've been feverish for three days."

"But the president?" Carol persisted. He must know! "Has he ordered the evacuation of Los Angeles?"

"You mean those cloud pictures?" They seemed remote to this cool white-walled room. "The president expects to announce some action tomorrow."

Carol laughed. "Tomorrow, always tomorrow!" He noticed the nurse's frown. "Very well, I'll rest."

He lay for hours, calmly looking up at the ceiling and at his fellow patients. They were, he discovered, also victims of the bomb that had completely destroyed the cloud over Bryant Park. Three had died here while Carol lay in delirium, talking, the man in the next bed told him, the "most awful tripe about caves and machines. . . ."

Carol shuddered. He might have given the secret away, had any one connected his babbling with the exhibitions!

Late in the afternoon, a young doctor came to examine his wound.

"Healing all right," the medico said cheerfully. "You'll be out in a couple of days."

"Not before?"

The doctor shook his head. "Now let's see, we didn't get your name. No identification."

"Harry West," Carol lied, and gave the doctor a fictitious address.

"Occupation?"

"Student." The doctor nodded and went to the next bed.

* * *

Evening came slowly, and Carol's fever rose again. An impatience to be out of this place consumed him. He wanted to be on the streets, to see what the city was like, to read the papers of the latest news, and most of all to go back to the cave. The Time Projector, Booth's gigantic plan seemed to be swallowed now in the delirium of a world plunging to disaster.

He eyed greedily the bundle of clothes at the foot of his bed, and waited until the lights were turned out. When it seemed that the ward had gone to sleep, he rose unsteadily and dressing, made his way dizzily from the ward, through interminable halls, past staring faces, down long stairways to the street.

But as he walked along the night streets, the fever beating at his brain, he wished he were again in the soft white bed. But he knew what he must do. Peter must pilot him . . . . to the cave . . . .

Somehow he found his way to his house and collapsed in Peter's arms

CHAPTER XVI.

Carol Returns

FOR two days Carol fought with the fever in his own home, and on the third day he awakened, fully refreshed He learned from the ever-present Peter that the wound in his head had practically healed.

Eagerly, Carol asked for news of the outside world. But when he heard Peter's story he sank back among his pillows disheartened. Though four days remained before the coming of the quake, Peter said the president had as yet given no order for the evacuation of Los Angeles, nor for the care of the refugees. But the situation, it seemed, was quickly being taken from his hands.

When the cloud had been bombed out of existence, and a stern regime of martial law prevailed over New York, there had ensued two days of enforced quiet. But as the day for the third exhibition of the disaster approached, the city had again become restless with fear. Crowds had again gathered on the streets, on the evening of the expected exhibition. That had been four days ago, as Carol had lain in the hospital. They were waiting, half hoping, half fearing that the exhibitions would again be shown. It seemed, then, that although they dreaded what the exhibitions would show, they dreaded more being deprived of them.

Rioting and bloodshed had occurred all over the city as the troops attempted to disperse the crowds. And though the hour of eight passed without a sign of the cloud in the city, the streets were still filled. Until midnight the populace roamed the city, eagerly asking each other if anything had been seen.

It was the following morning three days ago, when the forces latent in this situation had exploded. The newspapers had announced the failure of the exhibitions and many of them asserted triumphantly that the exhibitions had disappeared for good. In some way, the cloud itself was accepted as the symbol of the prophetic pictures, and with the cloud gone, it was assumed that the force behind them had likewise been destroyed.

This news flashed to Los Angeles, had swept the city with terror. What was to be done now, the millions asked themselves fearfully? The exhibitions had pictured the disaster. The exhibitions had always been infallible. But now they were gone, the president had so far refused to accept the disaster as a reality. Should they wait for the fateful day, and chance death, or should they at once desert their homes and businesses. . . . ? Rumors of every conceivable nature flew thick about the stricken city. Some said it was not really an earthquake that would strike it, but a terrible plague. At one time the story was flashed through the city that a mistake had been made in the date—the disaster would occur on the sixth, then three days away.

Los Angeles was in a turmoil. Business was practically at a standstill, people flooded the streets, the city hall, the newspaper offices, seeking, always seeking for the truth. What should they do?

But from the city there emerged an ever-enlarging trickle of the cautious, carrying their families and belongings beyond the proscribed territory. This exodus served but to increase the fear of those who remained. People began to invade the shops, buying up supplies of food. Shelves were being cleaned out, prices rose, and the shortage itself served to increase public apprehension.

But the final strike, Carol learned from Peter, had come the night before, when an armed group had attempted to capture the City Hall in New York. There had been a pitched battle in the Park; the rebels had been practically decimated, but on their retreat a bomb had exploded partially wrecking the historic City Hall.

All during that night there had been riots in Los Angeles, and the exodus of people had now risen to a virtual flood. In a never-ending stream the roads were clogged with motor cars, and above the city there sounded a continued roar of fast moving planes. Stores were sacked as groups of maddened men and women had defied the rifles and machine guns of the troops to attempt to carry out of the city with them supplies of food. Since early morning no news had come from the city and Federal troops had been ordered there hastily.

All over the nation, Peter went on stolidly, there was an air of demoralization. In a half dozen places, attempts to seize stores of arms and ammunition had been made and frustrated. Factories and shops were closing down in fear of being wrecked; trains were heavily guarded by troops, as though the nation were prepared for an armed insurrection.

Carol, remembering Bowden's whispered story of the planned revolt, smiled bitterly. Perhaps the worst was still to come. But the president had not yet acted.

At noon of the fifth, Carol rose from his bed and gave orders to Peter to prepare his plane for a trip to the cave. At two o'clock they set out.

It was a day of heavy clouds, and a feeling of lightning in the air. Peter piloted the plane as Carol wrapped in blankets, gazed moodily at the scenery beneath him.

What was to come now? What would Booth do, now that the cloud was destroyed? Would the man find some way to continue his exhibitions of the future, in the face of the inutterable folly of the human race? Or would Booth realize now that man had not yet reached the stage when this great force of the Time Projector could be calmly and reasonably accepted and used for its betterment?

CAROL did not know what to think. He knew only this, that he would be loyal to Booth until the end. His fortune, his whole life was tied up now in Booth and Booth's gigantic scheme for the world's redemption. If Booth persisted in the exhibiting of the future of man, Carol could do nothing but continue to aid him, even though it meant the continued subservience of his personal dream of happiness. He was already a criminal. Now if he continued with Booth, he had no doubt but that an attempt would be made to hunt them down and exterminate them.

It would all rest with Booth.

Army planes buzzed everywhere outside the traffic lanes, and often they swooped down upon the lanes themselves, coming quite close to the private planes to scrutinize them closely through telescopes.

"I think, sir," Peter put in, as they neared Washington, "it might be better to avoid the city. They might still be after you."

Carol smiled. "Very well. Ascend to our ceiling and we'll fly by compass."

Swiftly the plane rose, up and up until details of the earth beneath them contracted swiftly, into indistinguishable masses of dull color. They swept north of Washington at an altitude of forty thousand feet and only on the last lap of their journey to the cave did they begin to descend.

Above the bald rock they circled. And then as the roof opened they settled slowly to the ground.

Joan came to meet them. She looked in alarm at Carol's haggard face. "You're ill!" she exclaimed.

Carol took her in his arms. "No, not now." He kissed her hungrily. It seemed a long time before he released her. Then they walked arm in arm toward his old quarters.

Carol noticed suddenly, how extraordinarily quiet the encampment was. Usually there were men walking here and there, a low confident sound of human activity. Now there was an air of lifelessness and desolation.

He asked Joan what it meant.

"Mr. Booth's men are all gone," she said slowly, half in fear of what her words signified. "He sent them away yesterday."

Carol stared at her. "All gone?" His heart pounded strangely.

"All except George," she smiled slightly. "George refused to leave Mr. Booth."

"And your father?" Carol began.

"Still here," Joan interrupted. She voiced her fears. "There's something in the air of this place, Carol, perhaps the quiet of it, that freezes me. I think something terrible is going to happen here."

Carol pressed her arm. To him there was nothing that could happen that could surprise him. He was too weary for fears or alarms. Nevertheless he recognized that if Joan were right there would be her safety, as well as that of Blake and Booth to be considered.

"And has your father been content here?" he asked.

"Content! He's become more and more bitter," she hesitated for words. "For the first few days after you left, father merely walked about the place, without any desire to see Mr. Booth. Then one day he expressed a desire to meet him.

"I brought them together and they simply stood stared at each other, as though they were two strange creatures from different worlds. They said little to each other, and they didn't meet again for another day. Daddy took meals in his room.

"Then one day daddy asked if he could see the machine. Mr. Booth agreed at once and the three of us went down into that terrible cave.

"I don't know who was impressed more, daddy or myself, Carol, but I was swept away, by I don't know what. I saw daddy's face become more and more stony as Mr. Booth explained everything to us. Daddy asked not a single question and hardly said a word.

"Yesterday, they really began to talk to each other, to let out, as it were, their stored up feelings. We were in the projection room and daddy began bluntly by asking Mr. Booth if he didn't know that the machine was doing more harm to man than good. Mr. Booth denied this, and then he showed daddy the pictures of the war that is to come. I couldn't look at them.

"But daddy looked right through them, and when he finished his face was white, his body was shaking. He asked me to leave them alone.

"For three hours, Carol, they were in there together, alone with each other. I think that if they had been of a lower order of being, they would have torn each other's eyes out. But daddy told me afterwards they merely talked about the Time Projector, each trying to convince the other of his point of view. Daddy tried to show Mr. Booth that man must advance slowly and painfully, that all the disasters he suffers are part of his growth, that he *must* suffer them. Mr. Booth said, on the other hand, that man will perish unless he learns very quickly the laws of life and existence.

"But Carol, when I came back after three hours, both men looked as though they had gone through the most terrible torture. They were sitting across the table from each other just as I had left them. Daddy had his head in his arms; Mr. Booth was staring at the table with his empty pipe clenched in his hand. Their attitudes were terrible.

"I felt that in that room two giants had been battling with words and thoughts and feelings, each one right in his way, yet only one of them could triumph. And as yet neither had won."

Last Words

THEY reached Carol's room. He gazed about with a curious feeling of homesickness.

"Where are they now?" he asked Joan.

"Daddy is in his room. Mr. Booth is in the projection room. He wants to see you, Carol!"

She looked at him questioningly as though she could read from his eyes the secret of what lay before them.

Carol got up, "I must go to him, Joan," he pressed her hand.

He walked slowly through the deserted street to the building which housed the projection room, and then through the passageways. Discreetly he knocked on the door of the room. There was a low "Come in!"

Carol entered as Booth was slowly rising from his seat.

At once Carol was shocked at the man's haggard appearance. He had aged years in the past week. His iron will was evidently crushed. He stooped like a broken man.

He smiled wanly to Carol and grasped his hand. "This isn't a pleasant welcome for you, my boy."

Carol turned away. "Hasn't everything been well here?"

Booth motioned to a seat. "Sit down here, Carol. I want to talk to you."

Carol obeyed, looking intently at Booth's ashy face.

"I suppose you know that I have sent my men away," he began.

"Joan told me."

"I have no further need for them now," Booth went on slowly. "And I want them to go back into the world."

Carol breathed quickly. Did this mean that Blake had won, that Booth was abandoning . . . .

"Do you mean that the Time Projector . . . ." he began.

"That remains with me," Booth put in. "You see I can operate it alone now, I don't really need the men."

A shadow of distrust crossed Carol's face. "But what do you plan, sir?"

Booth pondered a moment. "I want you to take Joan and Mr. Blake back to New York tomorrow, and take George with you . . . "

Carol stared at him.

"No, don't interrupt me," Booth admonished. "If I know Mr. Blake, I know he will be my ally from now on. Not perhaps, as I would want. But I believe I have awakened him to the dangers that face man in the future.

"He has a great brain, Carol," Booth said warmly, "and a great heart. That he and I must disagree about the means of saving man, is my only regret in knowing him. But that disagreement is perhaps inevitable.

"You three will have your work cut out for you in the city. There is so much to be done. I want you to go on with it . . . believing in it because you believe that man is worth saving . . . . "

"And what about you, sir?"

Booth raised a hand in protest. "My work is still here for awhile. I must readjust my mind to see whether the Time Projector is to go on or not, and how."

Carol was silent for a long time. He should have felt joyful at this release. Yet he felt confused and abashed before this man. Vague fears filled him.

"And what will happen outside—in Los Angeles?" he asked.

Booth rose. "Come, see for yourself!"

Carol went with him and seated himself at one of the projection tables. He noticed as he pressed his eyes against the binoculars that the groaning from underneath him, that signalled the starting of the machine, was now more prolonged, as though the giant were tired and resisted being disturbed. It was a long time before there came the full thrilling hum that indicated the readiness of the machine.

Carol saw in the glass a picture of Los Angeles. He saw struggling mobs everywhere, dead lying about, motor cars flying madly through the streets which were filled with trunks, clothing, boxes, household equipment of all kinds. Windows of shops had been smashed in and the contents looted. Soldiers paraded everywhere. But now about them there was an air of purposefulness, of helpfulness to the struggling masses. The scenes shifted to the great air terminals where long lines of planes were being loaded with people and their baggage. Trains, miles long, on railroad siding were being filled and were swiftly moving with their human freight far away from the doomed city.

"Then the president will act?" Carol asked joyfully as he looked on.

"Yes," Booth said. "In fact you are seeing what is happening *now*. By the 9th the city will be empty and the people will be cared for in other places. Hundreds have already been killed, but the millions will be saved."

"And the rest of the country?" Carol asked.

"It is coming under control," Booth smiled. "The President has had a change of heart. He has announced that he will assist in every way that the Defense of Property Act be removed from the statutes, and he has asked the radicals in hiding to come out and to join with him in building a better and happier nation."

* * * *

THE two men went slowly back to their quarters, where Joan and Blake joined them. Blake greeted Carol affectionately.

"My boy, I'm glad to see you." His voice was choked with emotion.

It was a silent meal that they had that evening, with George attentively serving them. The boy's manner was one of slavish devotion to Booth, his eyes fixed almost continually in a humble pleading on Booth's face. Booth, however, avoided his glance.

After the meal was over, Booth got up. "I am tired, my friends. Will you excuse me for the evening?"

The others rose, and Booth limped slowly from the room, the eyes of all following him.

"What does this mean, sir?" Carol asked Blake. "He is staying here alone?"

Blake moved uneasily in his chair. "He has been here for a long time, Carol. This is his home, his life, so to speak. Perhaps he wants to remain here."

"But the Time Projector?" Carol blurted out.

Blake's face hardened. "I have promised not to interfere in that. Booth will do as he wishes with it."

"Please, sir," it was George speaking. "Don't let him send me away. I want to stay here."

Joan rose and slipped her arm about the boy. "Won't you be happy with us, George? We want you to come and live with us."

George looked up gratefully, then his face fell. "No, I want to stay here."

"George," Blake said gently. "Do you love Mr. Booth?"

George looked at him wildly in surprise. "Why—yes, sir . . . "

"Then you should make him happy by doing as he says . . . "

George nodded sadly. "I suppose so." He turned away and went out of doors . . . .

Morning came, and two planes rested on the landing field.

The six occupants of the cave were there. Booth was shaking hands with Blake and then he kissed Joan lightly.

To Peter he said, "Take care of my friends. I know you will."

Then he turned to George. "These people are your friends, George, I want you to be happy with them. Come back here to visit me soon."

He took Carol's hand last of all, and gripped it tightly and Carol could feel an intense emotion sweeping from Booth to him.

They exchanged not a word as Peter and George entered one of the planes. Above them the roof had been opened and the bright morning sunlight streamed in from a sky that was clear and blue with infinite promise.

The plane lurched slightly and then, like a bit of thistle, rose slowly into the air, circled once above the roof and disappeared. Silently Carol helped Joan into the other plane and then allowed Blake to enter. He followed shutting the door. Booth backed away slightly so as better to watch them.

Slowly the ground sank beneath them carrying Booth with it. His figure shrank slowly as they passed above the cavern top and set the propellers for horizontal flight.

Just as they started north Carol looked down and saw Booth wave to them, and then slowly limp out of sight. Then, as they moved northward, the cavern top slowly closed. Ahead of them was Peter's plane circling, waiting for them to come up.

They had gone but half a mile, when Carol saw Peter peering out of his cabin window toward him and motioning quickly toward the north. Carol looked and saw a swarm of black dots that half covered the sky, moving swiftly toward them.

Heart pounding in a fearful excitement, he turned to Blake.

"What does it mean?"

Blake gripped his arm.

Larger and larger appeared the swarm until finally they were distinguished as planes, and there came to the three in the cabin the low but thunderous hum of the motors.

At once a buzzing, the radio call signal, sounded in Carol's radio. He looked questioningly at Blake.

"Switch it on," Blake said. "I'll talk."

Carol closed the switch and Blake stepped to the microphone.

"Plane 31824 AR," he said by way of answering.

"Major Crandall of the United States Army speaking," a voice boomed out. "Who is in your plane?"

Blake looked hopelessly at Carol.

Carol leaned over to Blake's ear. "We must warn Booth," he whispered.

Blake shook his head.

"This is William Blake," he answered into the microphone.

There came at once surprised murmurs from the receiver and then an excited voice.

"Mr. Blake," it said, "this is Hingston. I gave up waiting for word from you, and went to the authorities . . . "

Blake and Carol exchanged nervous glances.

"But, I'm all right now, Hingston," Blake said. "We're on our way to New York."

Again they heard Major Crandall's voice. "But that infernal machine," he said, "we're out to get that . . . where is it?"

The planes had meanwhile been rapidly approaching and were barely a mile away.

Carol was about to shout some word of defiance into the microphone, when at once there came a thunderous roar as though the universe had split, and the plane jumped upward crazily. Carol leaped from his seat in alarm and looked back. Pouring from what had been the bald mountain top that housed the camp, was a dense stream of black smoke, that as it thinned revealed a great gaping hole in the mountain.

Joan screamed, as Carol grabbed for the controls. "Booth!" he groaned.

Blake grasped his arm. "Don't!"

Carol looked at him wildly.

"Don't you know he has done this himself!"

"What!" Carol gasped.

"He must have," Blake added tensely. "It was inevitable for him. He must have

seen at last that the Time Projector was not made for this world, and without it he had no existence. He must have known that these planes were coming for him."

"But . . . . " Carol stammered.

Loud confused cries sounded in the radio, and from them there emerged Crandall's voice.

"What was that . . . what was that?" he asked threateningly.

"That was your Time Projector," Carol shouted, mocking. "It's the end of the infernal machine . . . "

There came an "Oh!" half in apology, half in shame from the receiver, and then silence.

Carol sank into a seat. "The end . . . " he groaned . . . .

"Not the end," Blake corrected. "Only the beginning of something new. Booth has already done much good, Carol. Now it is for us to carry on. He has left us a world to remake, and a civilization to save twenty years hence. He died believing that we would carry on and do for man what he would have done."

Carol released the control that would have turned the machine about. It was still wobbling crazily in the powerful air current set in motion by the detonation below.

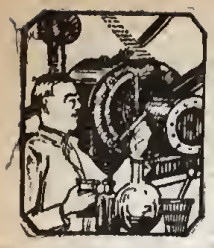
A few of the great swarm of planes had reached the cave and were circling hungrily over it. The others had turned about and were moving swiftly again, toward the north.

The cave was now miles behind them, the clouds still poured out, but now the crater's edge could be seen. The whole mountain looked as though it had been blown into its original atoms.

Reluctantly Carol faced about to the north where hovering, waiting for them, was Peter's plane. He could see George's little face pressed horrified against the glass.

Sinking into his seat, his face determined, Carol pressed his foot on the accelerator, that set the plane speeding northward, rising always higher and higher toward the inviting promise of the sky.

THE END.



Science Questions and Answers

THIS department is conducted for the benefit of readers who have pertinent queries on modern scientific facts. As space is limited we cannot undertake to answer more than three questions for each letter. The flood of correspondence received makes it impractical, also, to print answers as soon as we receive questions. However, questions of general interest will receive careful attention.

ASSOCIATE SCIENCE EDITORS

These nationally-known educators pass upon the scientific principles of all stories.

The Heaviside Layer

Editor, Science Questions and Answers:

One day I told my friends about the Heaviside Layer. They laughed at me saying that there was no such thing, and they are college students too! But they said they would believe me if they saw it mentioned in your magazine with a brief history of it. I hope you can find space for it.

Julius Schwartz,
407 E. 183 St.,
Bronx, N. Y.

(As early as 1900, Oliver Heavisilde suggested the existence, in the upper regions of the atmosphere, of a conductive layer which acts as a guide for radio waves. Independent investigations by Kennelly also pointed to a stratum of the upper atmosphere which is rich in electrons and ions. For that reason the region is called the Kennelly-Heaviside Layer.

It is, then, supposed to he a layer of lonized air which, lnstead of allowing the radio waves to pass off lnto space, reflects them hack to earth; so that they follow in general the curvature of the earth. The helght of the layer is estimated at between 75 and 200 miles above the earth's surface. Naturally, it is not fixed in space, and it shifts up or down, with the hour of the day and the season of the year. It is supposed to be due principally to the effect of solar radiation upon the upper levels of the atmosphere.

It cannot, of course, be seen; but lts presence is indicated by the reflectlon of radio signals back to earth, at angles whlch are determined, not only by its height, but by their wavelength. This produces alternate zones of strong receptlon and of weak or no reception ("skip-distance" effects) of short-wave radio signals. Below a certain wavelength (around two meters) it is believed that the waves pass through the Heaviside layer almost directly—like light—and do not return again to earth. If, therefore, radio communlcation wlth other planets is to be effected, it must be by the use of these ultra-short waves.

The Heaviside Layer is, in short, not a distinctly-defined blanket, as the name might suggest, but a region of the upper air where low pressure (less than a millionth that at sea level) and a highly-electrified condition prevail. This positively-charged or ionized state of the gas produces the effect on radio waves which has been mentioned.—Editor)

Making Liquid Air

Editor, Science Questions and Answers:

Would you tell me in your columns how liquid air is made?

Jose A. Kane,
169 Cottage St.,
Auburn, N. Y.

(Liquid air is practically a mlxture of lquid oxygen, which condenses at 182.9 deg. C. and liquid nltrogen, which condenses at 195.7 deg. To "make" liquid air, therefore, means cooling the air to approximately 190 deg. C.

This can be done in two ways. Heat may be abstracted from the air directly by placing lt in contact with a cooler body; or lt may be abstracted by sudden expansion of the gas. In practice, both methods are generally used.

One process is to compress the air to 200 atmospheres (2900 pounds to the square inch) without heating it. That is, while the gas is being compressed, it is permltted to radiate the heat of compression as fast as lt accumulates.

The gas is then allowed to expand through numerous copper coils and, finally, through a valve at the end of the apparatus. This expansion cools the gas considerably; and it is then returned to the compressor, where it is again compressed to 200 atmospheres. On the way to the compressor, however, it first passes over the outside of the copper coils, and thus cools the gas that is then passing through them. By this cyclic process, each stage cooling the gas more and more, the point of liquefaction is finally reached; and the liquid air is collected in a receptacle.

There are a great many commercial methods of liquefying air; but the basis of all is substantially as outlined above.—Editor)

Glass Would Flow

Editor, Science Questions and Answers:

I am a constant reader of your wonderful magazine, *WONDER STORIES*, and believe that there is not a better magazine published. In reading your "Science Questions and Answers," I find them very interesting, but sometimes puzzling.

In your May issue, in answer to a question, you said that glass at 34,220 feet below sea level (equal to 16,000 pounds pressure), would probably become liquid and flow. Would you kindly explain?

Leo Cherymisin,
Cucamonga, Calif.

(The term "liquid" is not altogether correct in this connection; what was meant is that glass, though solid, is elastic and, under such a tremendous pressure, can change its shape without breaking. The molecules of the glass are pushed past each other, without losing their cohesion entirely, just as in a piece of soft rubber. While we ordinarily think of glass as very rigid and brittle, it is a matter of common experience to see the bending of a large thin sheet. As a matter of fact, no matter is absolutely "solid" and some of the substances ordinarily classed as such (like wax) resemble also extremely viscous liquids.—Editor)

Seeing Two Stars

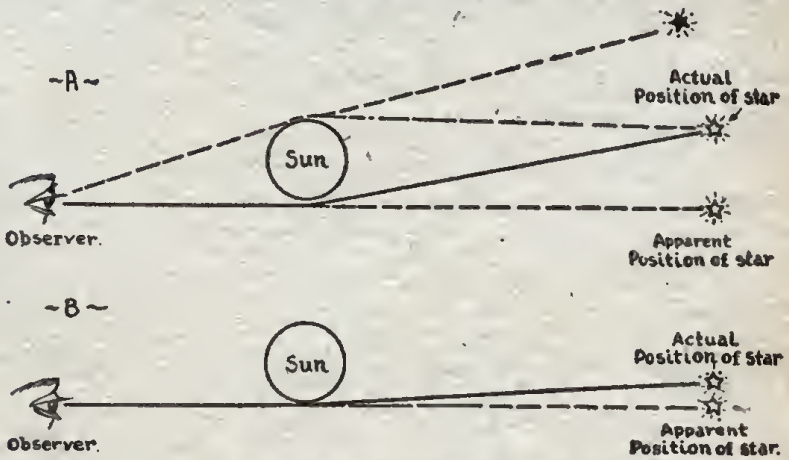
Editor, Science Questions and Answers:

In the March 1931 *WONDER STORIES* you showed by a diagram, how a star is apparently displaced in the heavens by the attraction of the sun for the star's light. This, as you said, was one of the proofs of the Einstein theories. Why, instead of merely showing the star displaced, would not one see two stars instead of one? I have indicated my idea on the following diagram.

E. V. Anderson,
R. F. D. No. 3,
Tyler, Minn.

(We have shown in A, Mr. Anderson's diagram, indicating that one might see two stars, because the light from the actual star would be bent around the sun on both sides, thereby giving the apparent position of the star on both sides of the sun.

In the March 1931 issue, we stated that light waves are attracted by heavenly bodies such as our sun, and therefore the waves are bent toward the sun, apparently a proof of the Einstein theory that light has mass.



At A is reproduced Mr. Anderson's sketch, suggesting that a star might be seen on both sides of the sun, by the Einstein effect. (If so, it would appear as a ring around the sun!) At B, the fact that the displacement is insufficient is indicated; but, as this shift is less than 1/1000 of our sun's diameter, it cannot be drawn to scale. With a sun composed of the animaginably massy "neutronium," we might even expect an effect like that at A.

We perhaps did not state that the deviation of such light waves by the gravitational attraction of the sun was extremely small, and could be measured only by the most delicate of instruments. But we did state that "stars that are in part hidden by the sun, or near its limb, send their light rays in all directions and some of these rays pass close to the sun's outer edge." In other words, since the deviation in light waves is very slight, this Einstein effect is apparent only on stars that are very close to the sun's disc as seen from the earth. Our original illustration of a star in the position as shown in A was erroneous, and was placed so as to exaggerate the bending of the light rays, so as to make it clearer for illustrative purposes.

In B the real position of the star is shown. Thus it is seen that the Einstein effect acts on only one side of the sun's disc, and there is no possibility of two stars being seen. Even in B the amount of bending of the light rays that occurs is still exaggerated. In such a small drawing, the infinitesimal bend could not be shown.—Editor)

Visible Light by Radio

Editor, Science Questions and Answers:

1. Are radio waves, cosmic rays, ultra-violet rays, X-rays and heat and light rays the same, only of different frequencies?

2. Is it possible with the proper apparatus to construct a radio transmitter which would send out waves so rapidly that they would be visible, as visible light?

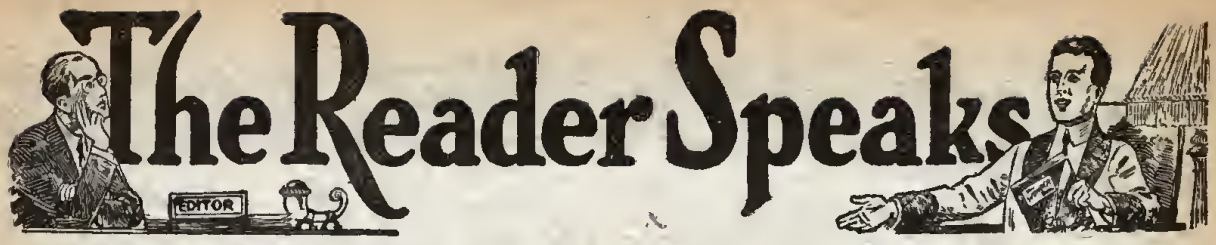
Clyde Norton,
Engadine, Mich.

(1) Radio waves, heating radiation, infra-red rays, visible light, ultra-violet rays, X-rays, gamma rays and (presumably) cosmic rays are fundamentally similar, but differing in frequency and consequently in wavelength. This difference causes them to have varying effects upon matter which lies in their path.

For instance, only those rays are visible which are of a suitable length to produce a chemical change in the molecules of "visual purple" on the retina of the eye. The ultra-violet waves are too short and the infra-red waves too long.

(2) The shortest wave which a radio transmitter can set out is limited by the electrical constants of the apparatus, and this in turn cannot be separated entirely from its physical dimensions. For that reason, it is impossible to build a transmitter which will send out in the ordinary manner waves only 1/30,000-inch long. The shortest "radio" waves which have been produced were about 1/30 to 1/300-inch long (estimated); and were generated, not by a transmitter, but by causing a current to jump between iron filings which were mixed with insulating oil. If the same process were applied with such energy as to produce in the iron molecular motion, which would cause rays between 1/70,000 and 1/35,000-inch wavelength to be emitted, the result would be light. We would not consider the result to be "radio" waves, however.

As radiation becomes higher in frequency and shorter in wavelength, it loses the characteristics which we associate with "radio," and assumes those which we associate with light. Radio below one meter wavelength is quasi-optical.—Editor)



IN this department we shall publish every month your opinions. After all, this is your magazine and it is edited for you. If we fall down on the choice of our stories, or if the editorial board slips up occasionally, it is up to you to voice your opinion. It makes no difference whether your letter is complimentary, critical, or whether it contains a good old-fashioned brick bat. All are equally welcome. All of your letters, as much as space will allow, will be published here for the benefit of all. Due to the large influx of mail, no communications to this department are answered individually unless 25c in stamps to cover time and postage is remitted.

Address all letters for this department to Editor, Wonder Stories, 98 Park Place, New York.

A Letter from Holland

Editor, WONDER STORIES:

I don't believe that so far you have ever received a letter about *WONDER STORIES* from Holland. As a matter of fact, I don't believe you have advertised your splendid magazine enough.

As a navigating and colonial country, we have to know several modern languages. Consequently nearly every educated citizen of the Netherlands speaks and writes at least French, German and English. As proof of this you will find in every bookshop, a choice of French, English and German literature. So I first met *WONDER STORIES* in April 1930 in a bookshelf of a railway station in the Hague. After having read the number I immediately instructed my bookseller to forward me your magazine regularly.

I am an enthusiastic reader of your publications, which are a source of the keenest pleasure to me and my friends. At my office the appearance of every new number is greeted with enthusiasm. I don't know of any European magazine that contains such stories as those you publish.

This month I bought for the first time your *QUARTERLY*, resulting in ordering my bookseller to subscribe for me regularly and to order all back numbers.

Being an electrical engineer I am very much interested in science fiction. I find that it stimulates the imagination and the love of technical knowledge. On the whole your stories reach a very high standard.

Your columns "The Reader Speaks" are also very interesting. It is for our European manners an unknown custom to publish letters which contain such very severe criticism of a magazine. We don't on the whole praise the things we like too greatly, but we are not severe in criticism.

I believe that is because a Dutchman is modest. He always asks himself, could I have done better? Tastes are different—a story that I like immensely will bore another. So I don't think it fair to condemn a writer simply because you dislike a special story of his. In fact I think it to be narrow-minded; as people who do so must suppose that all other readers are of the same opinion, which is a conceited point of view. Concluding I will say that I hope you will go on publishing stories of the kind you have done.

Dr. D. W. Gerritsen, Elect. Eng.,
Koninginnelaan 59, Ryswijk,
Zuid, Holland.

(With another "country heard from", we will soon be able to say that *WONDER STORIES* is read in every part of the world.

It is always refreshing to get a letter such as this from an intelligent man of a nation with customs and mental habits different from our own. Dr. Gerritsen's letter does contain a little lesson in modesty to Americans. We have become so used, in our frantically busy world, to the expression of violent opinions, pro or con, that we feel that there is no limit to them. In Holland, we learn, a man would temper his opinion by a feeling of "who am I to be the final judge of this?"

On the other hand, we want Dr. Gerritsen to feel that we believe it to be a sane thing to allow readers to air their opinions. Those who have a just grievance will feel better when they have it "off their chests" to use an American expression; and the publishing of that grievance will very often lead to an improvement in the magazine. Those who nurse a complaint that is not well founded will probably realize how empty it is just as soon as their opinions have been written down and they have a chance to look them over calmly. So it helps both ways.

But we are very glad to see our growing number of foreign readers taking more and more of an interest in our readers' discussion. For science fiction is international. In fact as some would say it is interplanetary.—*Editor.*)

Something Less Than Justice

Editor, WONDER STORIES:

I cannot feel other than humble before the fine and considerate response of the readers of *WONDER STORIES* to the two efforts of mine that have appeared in your magazine. I am a believer in the future of science fiction, and the encouragement your readers have given to me and others among your authors will certainly go far toward making possible the production of the type of literature in this field we all hope for.

Consequently it was with considerable pleasure that I read the fine and thoughtful letter of Miss K. E. Wright in the June issue. With her general criticisms of present science fiction and her suggestions for improving it I am in hearty accord. Her kind comparison of my work with that of the able Herr Von Hanstein is extremely flattering, and it makes all the more difficult the one complaint I have to make.

It is this: I believe that Miss Wright did me something less than justice in accusing me of forgetfulness in the matter of Nina, the heroine of "The Rescue from Jupiter" and its sequel, "The Return from Jupiter". She writes "You need not purchase a time machine or a memory course to recall that Nina—was black—as tar—albeit supposedly beautiful. But in 'The Return from Jupiter' the same girl has *slim, white hands,* according to the author."

The intent of this comparison was—and it was expressed in pretty plain terms—to accuse the author of those stories of carelessness or poor memory concerning the details of his characters. Whatever the faults of the two "Jupiter" stories—and I am conscious of plenty of them—the lapse here is on Miss Wright and not on the author, for the facts of that change from dark to white are all carefully explained in "The Rescue from Jupiter", as your correspondent will learn if she refers to the second installment of the story.

For instance, on page 912 of the March, 1930, number of *SCIENCE WONDER STORIES*, which contains the installment in question, the father of Allus Marce explains to his son the curious bleaching properties of the Neinian light, which had already been demonstrated by the earlier visitors from the earth. The matter having there been pretty thoroughly gone into at that point in the story, it was mentioned only once in connection with Nina, but in that instance quite effectively, it seems to me. This occurs on page 933 of the same issue, after Allus Marce had invited the Telluriana to Neina.

"But (says Nina) we are black, and you are white. Does color make any difference to you?"

"On the contrary. (Allus Marce replies.) Besides, our light will make you white as we are as soon as you have been exposed to it."

I think a rereading of these passages will convince Miss Wright that she has done me an injustice. Nevertheless I do agree that authors all too frequently forget details of their earlier stories in working out sequels for them. It is an important point, and one that all of us might well keep in mind. Miss Wright's other suggestions are even more to the point, and I hope she will understand

(*Continued on Page* 424)

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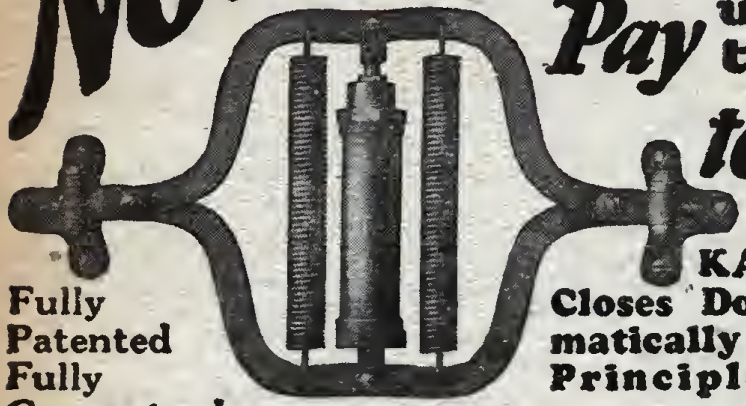

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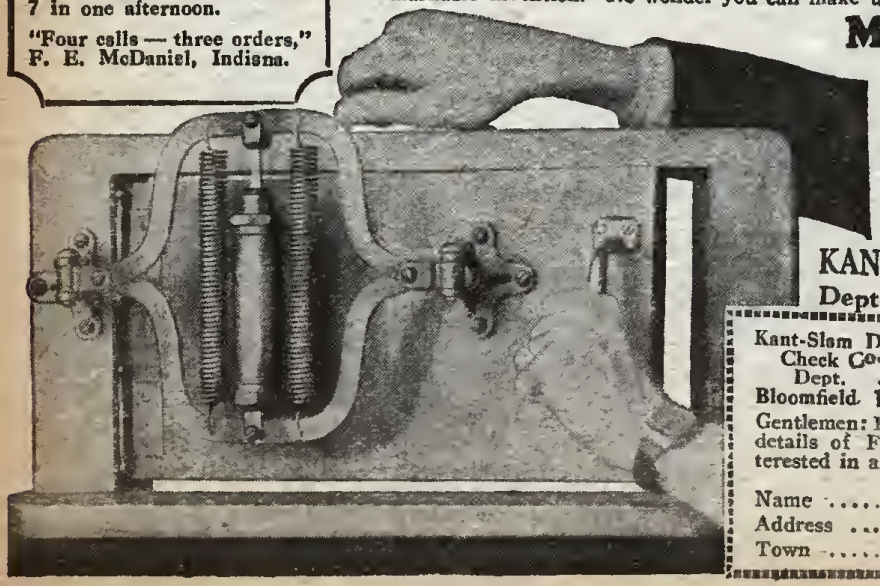

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THE READER SPEAKS

(*Continued from Page* 422)

that it was in no spirit of animosity that I have written to make this slight correction.

Gawain Edwards,
450 W. 22 St.,
New York City.

(We print with pleasure Mr. Edwards' defense of his "Jupiter" stories. We agree with both the plaintiff and the defendant that an author who forgets from one story to the next what his characters are like, cannot feel his story very sincerely. For that reason, we are especially glad to have Mr. Edwards, whose stories ring with their sincerity, clear himself of this odium.—*Editor*)

Aura Seen by Many

Editor, WONDER STORIES:

I was very much interested in the editorial, "Wonders of the Human Body," in your June issue, which treated of the human aura and its possible nature.

The editorial stated that "no one seems to know what the aura is," though it has been scientifically proved to exist. As a matter of fact, there is a very definite and widely-accepted explanation of the aura, which should interest your readers even though it may not convince them.

The existence of an aura, or colored mist of rarefied matter surrounding the human body, has long been known. It was frequently depicted in paintings at the time of the Renaissance, not merely as a halo around the head, but as an ovoid in the midst of which the human form is standing.

The aura is clearly visible to the trained investigator, and is frequently seen in part by many as a glow of light above the heads of others. All human beings are surrounded and interpenetrated by such a cloud of etheric matter, which is so sensitive that it responds instantly to thoughts and feelings, and as it does so its vibrations give rise to various colors. As mentioned in the editorial, the color and size of the aura indicate the person's state of health.

The same article comments upon the mutual attraction or repulsion that some people feel for each other on meeting for the first time. This phenomenon is due to latent memories of previous incarnations in which such individuals were either bosom friends or deadly enemies. While I cannot go further into this fascinating subject here, I shall be pleased to answer any queries along this line to the best of my ability.

Allen Glasser,
1610 University Avenue,
New York City.

(Mr. Glasser offers some interesting information about the widely-disputed existence of the aura. We invite him to give us a fuller explanation of what he has discovered, in the next issue of *WONDER STORIES*.

We must be especially careful in this, as we must be in the matter of spiritualism, to distinguish between what has been scientifically proved by disinterested experts and what has been offered as evidence by adherents to the theories. But we would like to know all of the evidence, for and against.—*Editor*)

Actual Suspended Animation

Editor, WONDER STORIES:

I refer to the letter of James Rigby, of Dryden, Ont., in your April issue, regarding suspended animation.

Some years ago I was gold mining at Hoddles Creek, Victoria, Australia, and sinking a shaft on a quartz reef. The shaft was being put down on the top of a ridge, about 800 feet above the level of the creek, which was distant about a mile and a half. The ridge was, of course quite dry, and owing to its steep pitch East and West, no water was caught on it when it rained.

The shaft was being put down through hard Lower Silurian rock, which is a sedimentary rock of the nature of slate, and put down, so geologists say, about six million years ago at the bottom of lagoons and still water estuaries.

Working in the shaft about 20 feet down in the solid rock, I was breaking it up into pieces small enough to go into the bucket. I broke up one large

piece with a sledge-hammer and it aplit the "way of the grain". Resting in a little depression that had been in the center of the piecs of rock, and now revealed by its fracturs, was a brown toad. There had been a little nest in the middls of the rock, worn perfectly smooth, and withont eigns of any orifice whatever, and that is where the toad had been. Unfortunately in splitting the rock I had injured the toad, which died in a few moments. It did not seem to have any eyes.

How did it get into the middle of the solid rock? I emphasize the point that there was no sign of any hols at all, no matter how small, by which the toad could have got into the place where it wae. It would seem that it must have been overlaid by the mud when the rock was forming in ths lagoon—that it made room for itself, and that the mud mnst have hardened into rock about it. One is staggsred by the length of time indicated—perhaps two or three million years or more, and if I had not disturhed it, it could have remained there, alive, for eome millions of years still. Time as ws know it, does not exist in caees of suspended animation.

In the British Museum there is a Stone Age Egyptian, antedating the Pyramids by many thousands of years. He is exhibited in the large earthenware bowl in which he was found. He is not a mummy strictly speaking, as he was smoke-dried, and was not eviscerated. He is still in good condition, and has a most wonderful crop of curly red hair. The weird thing about him is that this hair is still *alive*, and though it does not grow very fast it really does grow. You can get confirmation from the Curator at the Museum. Perhaps the poor old chap himself is not really dead and might be resuscitated. A good subject for an imaginative writer.

Good luck to *WONDER STORIES*. I do not care for Time stories, as the basis seems false. If I could go back and actually take part in life a few hnndred or thousand years ago I could not exist now, as I exist now because of what happened in the past and if the past had been different, and my interposition would have tremendous effects, the presept would be not what it is. Similarly I cannot jump ahead and alter ths future, because the future depends on what is done now. It might be possible to ees ths paet or future as a spectator. Interplanstary stories are good, and "Emperor of the Stars" is fine—also the "Return from Jupiter."

C. E. Willis,
85 Galpin'e Road,
Thornton Heath,
Surrey, England.

(This experience of Mr. Willis eeems to be a clear challenge to those who deny that euspended animation over long periods could exist. If experiences such as Mr. Willis relates could be gathered together they would probably make a very impressive case, and no doubt, in the course of time, more and more evidence will be brought to light.—*Editor*)

Telepathy Realized Every Day

Editor, WONDER STORIES:

After reading the May issue, I have come to the conclusion that "The War of ths Giants" by Fletcher Pratt and "Utopia Island" by Otfrid von Hanstein shared in the first prize. We can always depend upon Pratt for an interesting and original story. Von Hanstein writes what may be called, "super etories".

The "Beaets of Ban-du-lu" by Ed Earl Repp was also good. Repp is an excellent author. "Worlds to Barter" was original and nicely written. "The Cosmic Gun" by Colladay and "Through the Purple Cloud" by Williamson were not up to standard.

In "Science Qusstions and Anewers" of the May issue yon stated that the earth "weighed" 13,000,000,000,000,000,000,000 pounds. I always thought that the earth weighed nothing since it is in space. When one takes heavenly bodies into coneideration, earth standards must be forgotten. Weight is the pull of ons body on another and is determined hy the volume and density of ths smaller body. Therefors the earth is pulled down by all bodies near it. The moon ie too emall to effect a pull on the earth; the eun's pull is overcome by centrifugal force and other bodies only go to determine the earth's orbit. Therefore, I conclude that the earth weighs nothing.

The editorial "Telepathy" was very interesting. But I don't believe there is no one who cannot prove telepathy by the simple test offered by yonrself. Dr. Sage of the New York Institute of Science in Rochester

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THE READER SPEAKS

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could accomplish this test with any one of his associates. A very close friend of mine was a member of the Institute and he assured me of the greatness of Dr. Sage's mind. Dr. Sage is at present the head of the Sage Institute in France.

But isn't telepathy realized every day? I go to a movie and recognize one of my friends and keep staring at him until he looks back and sees me. The person didn't know I was there but as I looked at him and wished he would turn around, he felt my thought waves and unconsciously responded to them.

But coming back to the editorial, you didn't mention or include Hypnotism in your discussion. Hypnotism is a form of forced mental telepathy and has been proved over and over again by countless numbers of people.

Robert Altomane,
773 E. 155 Street,
Bronx, N. Y.

(When we speak of the weight of the earth, we mean its power to attract another body gravitationally. The weight of the earth for example is measured experimentally by its mutual attraction for a small ball suspended in a room from the ceiling by a long string. The weight or mass of the ball has been determined of course by the earth's attraction on it, as measured on a scale. Now we return the trick by measuring the earth by the standard of the ball.

Properly speaking the term "mass" should be used instead of weight, then there would be no chance of confusion. But mass is a term that is not current except among physicists, and we felt that it might have been understood.

Of course, there is no finality as to the possibility or impossibility of proving telepathy, just as there is no finality as to spiritism and ectoplasm. Possibly throughout the world there are hundreds of thousands of people who have had experiences that may be recognized ultimately as examples of mental telepathy. But science must first be sure that these things really occurred and second that they all have a definite meaning. As we have stated, future generations will make great headway in plumbing the nature of all mental phenomena.—*Editor*)

Possible Science Fiction Plots

Editor, WONDER STORIES:

I am in hearty agreement with Mr. Glasser's suggestion that science fiction fans write to various film companies asking for science fantasy pictures. I suppose the film people are afraid to venture, not knowing their changing public. It is up to us to set them right in this matter. Germany is way ahead of us in the production of science films. Is it possible that the settings for science films are expensive? Might this be a deterrent? Two or three years ago I heard that Milton Sills was to star in a picture entieled, *"The Man from Mars," but* apparently nothing ever came of it.

I am wondering if Mr. Glasser's letter and mine won't start a deluge of letters traveling Hollywoodward. Come on, science fiction fans, let's go! Our united efforts might bring this country a few films in 1932 that are not wild west, sex drama or gangster stuff. I think we're all strong for good comedies, but let's have some of our serious dramas a little less of the emotional and more of the intellectual!

Mr. Pancoast'e letter referred to the saying that there are only five or six original plots. That may be true as regards the technique of plot development, but I have made a table of sixteen general classifications into which it seems to me all science fiction stories written to date can be placed:

1—Interplanetary space travel.
2—Adventures on other worlds.
3—Adventures in other dimensions.
4—Adventures in the micro or macro-cosmos.
5—Gigantic insects.
6—Gigantic man-eating plants.
7—Time travel, past or future.
8—Monstrous forms of unfamiliar life.
9—The creation of super-machines.
10—The creation of synthetic life.
11—Mental telepathy and mental aberrations.
12—Invisibility.
13—Ray and vibration stories.

14—Unexplored portions of the globe; submarine, subterranean, etc.
15—Super intelligence.
16—Natural cataclysme; extra-terrestrial or confined to the earth.

The extremes of diabolism and Utopianism are frequent themes, but these are social topics that use one of the above mentioned methods as mere vehicles for the expression of an ideal. Occasionally there are stories very difficult to classify. An example is Dr. Keller's termite story. One might roughly classify it under nnmbers 8 or 15 and yet it is something more than either of these because it is a psychological rather than a physical science story.

(Mrs.) Clare Winger Harris,
16301 Lakewood Hts. Blvd.,
Lakewood, Ohio.

(We are very grateful to onr popular authoress, Mrs. Harris, for this very interesting analysis of possible science fiction themes. It has been said that there are only four or five original plots possible for any type of story. If this is true then science fiction has a considerably larger field of activity than ordinary fiction. Now assuming that the sixteen basic themes are really all science fiction has to offer—we can see that the story possibilities are almost infinite, for the number of variations of time and place that stories can euffer are almost endless; and the use of different characters and different motives still fnrther extend our field. Who said that science fiction was limited?

We invite our readers and authors alike to make additions or corrections to Mrs. Harris' list.—*Editor*)

Scientifically-Minded Country

Editor, WONDER STORIES:

Why is it that so many "big things" in science do not "come off"? By that I mean simply, if it were possible to reach the moon by rocket, or by any other means, Dr. Goddard could do it if he had the help and support of the American people. (Take Germany as an example of a really scientifically minded country.)

Is the failure of a space flight because:
1. Not enough people are interested in science?
2. The thing is impossible?
3. People are too busy to think about it?
4. Goddard is a fool?

I don't think the last ie at all true. He is just like other persons with great ideas, trying to prove against publio prejndice that he is right.

I get a good razzing whenever I atart to talk science to my friends. When I bring home a science fiction magazine, I put it away, for if anyone found it—good night! I'd be called crazy, goofy, etc. But with my mind, I can't see anything but science fiction.

Joe Kucero,
7102 So. 37th St.,
Omaha, Nebr.

(Young Mr. Kucero who is only 14 years old poses a very pertinent question in this letter. We believe that so many big things in acience do not happen because the newspapera have led people to expect results too quickly.

It was felt when the question of the space rocket was publicized that in a few years a space ship would be built, for a eafe and happy voyage to the moon. The newspapers played this up so dramatically, that to the average man, the thing sounded easy.

As a matter of fact, the problem of building a ahip to travel to the moon, and return safely, is difficult enough to challenge all the inventive and engineering skill the world possesses. Without douht IT IS THE MOST DIFFICULT THING THAT SCIENCE HAS ATTEMPTED!

We of the 1931's have been spoiled by our scientists. They have ponred snch an endless stream of scientific inventions into our lapa that we have forgotten the years of experiment, research, expenditure of money, of energy, the agony of failnre, the long searching for new ideas and inspirations that preceded the final product.

We are similarly too impatient for a realization of the apace fight. Nothing could be better, for a publio appreciation of what the space flight would mean than to have given to the world a full explantion of the tremendous difficulties that must be overcome.

Dr. Goddard, the American Interplanetary Society, and the astronants abroad do not donpt but

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BE sure to read the interesting announcement on page 430 of this issue—it's well worth spending a few minutes to read it.

THE READER SPEAKS

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that interplanetary travel will come. Bnt we mnst be patient; only to see one improvement after another, to see each rocket flight go a little higher into the air, to see each new fuel developed give a little more energy than the preceding. On the basis of these gradual improvements the grand final result will come. Remember it took hundreds of years to invent the comparatively simple airplane!—*Editor*)

Regarding the Human Aura

Editor, WONDER STORIES:

Have jnst finished reading your interesting article in *WONDER STORIES* regarding the human aura and would like to tell you of an experience I had about a month ago as I think it will interest you.

I am a member of the Liberal Catholic Church, the old church of Holland. Though it has no connection with the Roman rite it is somewhat similar; the liturgy is chanted in English, and is very ritnalistic.

The Saturday before I took the liberty to look into a bee hive and one of the little citizens took offense and nsed its weapon on my eye. Of course, not wanting to miss church I put on a bandage and went as nsnal.

This naturally enlarged the retina of the opposite eye and under quite a strong light I was able to see brilliant violet whirling clouds around the priest both at the altar and nnder an exceptionally strong light in the pulpit. The color was more like the light rays from a diamond and I noticed by fast movement of my eye lid it remained very clear. I had read something concerning the meaning of the colors of the aura and this was a "spiritual" color.

To those that are wholly developed, these colors can all be classed as, red, anger; grey, depreesion; dark green, jealousy; bright yellow, scientifio thought; brown, avarioionsness; and purple, spirituality. The degree that they manifest themselves signifies the stage that person has reached in his emotional evolution.

Have been a constant reader of *WONDER STORIES* and think they have a place in American literature. Bnt I wish you would return to the old size. It reads better to me.

Ward Stockham,
Box 84,
Friendswood, Texas.

(It is a well known fact that after being exposed to a strong light our eyes will perceive various colors that we have not seen previously. This is especially trne after gazing at the sun.

We are inclined to doubt whether auras would, even if they existed, appear in suoh clearly defined colors as Mr. Stockham indicates. And even if they did, others might differ as to the meanings that might be attributed to the different colors. Some take red as meaning bravery and white as purity or spirituality.

But we must be careful in these affairs not to try too hard to place arbitrary meanings on our new sense impressions. We have no doubt that Mr. Stockham did have the experience that he states; but it is donbtful if snch a category of aural values really exists. His experience however is very interesting to know abont.—*Editor*)

Infinite Time and Space

Editor Wonder Stories:

I read with a great deal of interest the observations of Mr. P. Schuyler Miller in the May issue on the Lorentz-Fitzgerald Contraction theory. One thing that Mr. Miller forgot was that the length of a body travelling at the speed of light becomes zero according to the contraction theory. Thns the mase of a body would be infinite in two dimensions only.

To a three-dimensional observer the body would appear to be an infinite plane surface. This would take place because the only way to have an infinite mass in two dimensions is by having both of those dimensions infinite in extent.

If the theory of the ourvature of space is correct, then this infinite plane surface wonld be bent into a hollow sphere whose radins wonld be infinite, and the thickness of this "shell" would be zero. Snch a ephere would not affect the universe in any way.

The time equation must also be considered. If, in Dr. Breuer's stories, the travellers moved at the speed of light, they would go infinitely into the future. This is evidently impossible.

If the travellers reached the speed of light and then stopped their vehicle they would of course regain their original length. I see no reason why they should not also regain their original time. This argument contests the beliefs of Dr. Bréuer and other prominent authors who most certainly know more than I do about time and space.

Yet I would be thankful for an editorial opinion about my views.

Milton Kaletsky,
2301 Morris Ave.,
New York.

(We must always remember in these discussions that the velocity of light, in the Lorentz-Fitzgerald equations, is a limiting velocity, which it is assumed a material body will never reach. It is like saying that parallel lines meet at infinity. For our purposes the speed of light is infinity. So therefore our discussions should not consider the speed of light, for at that speed the body having zero length would not be a body but only a surface. In other words we must distinguish, for example, between a sheet of paper which is almost a two-dimensional object and the top of a table which is truly two-dimensional.

Mr. Kaletsky's theory of the infinite sphere might hold if a body of zero thickness were possible. However it is an interesting way to picture what phenomena might occur.

But as was remarked in the preceeding issue, to attain an infinite velocity needs infinite force or power, and no such force or power is in existence.

However, if the corpuscular theory of light is upheld, the Einstein theory might suffer a rude shock. For then we should know that there are actual particles of light travelling at that limiting velocity of 186,000 miles per second. According to the Lorentz contraction equations, each particle should then have infinite mass, and each particle would therefore be like the "irresistible body" in the old gag.

Another thing to remember is that Einstein did not mean these changes in time and dimensions to be real. His very relativity theory implied that they are only apparent changes, the way one observer would see the phenomena of another body. We must admit that they are at basis probably only mathematical and not physical concepts, and an attempt to apply the equations to our ordinary experiences may lead us into absurdities. However, they offer fruitful fields of speculation.—*Editor*)

BOOK REVIEW

THIS MECHANICAL WORLD by Morton Mott-Smith, Ph.D. 225 pages, illustrated, stiff cloth covers. Size 5 x 7¾. Published by D. Appleton & Company, New York. Price $2.00.

As an addition to the "Appleton New World of Science Seriee" this volume will appeal to both the scientist and layman. In the words of the puhlisher, "it humenizes the classical physics and frees it from conventional textbook aspects."

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The laws of hydrodynamics, of force and energy, of inertia, of acceleration, gravitation and the fundamentals of kinetic and potential energy are all laid bare.

Especially interesting to our readers should bs the chapter on "The Effects of Acceleration." Dr. Mott-Smith discusses here some of the fundamental principles that will govern rocket travel and interplanetary flying. He shows the fallacies of the Verne opus, "A Journey to the Moon" and illustrates why a rocket possesses the ability to perform the task that Verne assigned erroneously to a cannon shot. His analysis of the problem makes stimulating reading to those interested in the why or how of the interplanetary travel discussions.

Ths very vivid description of a one-hour journey from New York to San Francisco by rocket also lifts the book clearly out of the dnsty realms of academic discussion and gives it life and vigor.

For those who wish to learn painlessly the simpler and basic principles thet govern our world of physics, this volume is enthusiastically recommended.

THE PSYCHOLOGY OF THE INVENTOR by Joseph Rossman. 250 pages, stiff cloth covers. Size 6 x 8½. Published by the Inventors Publishing Company, Washington, D. C. Price $3.00.

For the first time, a true picture is given here of the mental life of the inventor, why and how he invents, how hs geta hie inspirations, whether inventors are born or made, and other absorbing topics. Meny facte are gathered that have never appeared in print and many observations of 710 prominent living inventors are quoted. Some of the important features of this book include the analysia of the mental operations of the inventor in terms of his own reactions and emotions; a description of the actnal methods used by inventors; their trials and trihulations; their attitudes and opinions on the material side of inventing; their relations to the promoter and the purchasing puhlic; and their experiences before the Patent Office and in litigation before the courts.

Although invention is an important part of our material progress, the inventor as a group is still unknown to us. We have read, it is true, of the careers, of the great inventors—Marconi, Edison, De Forest, Bell, etc. But of the careers of the great hulk of successful though lesser known inventors who fill a life with hundreda of useful inventions, we know little.

Mr. Rossman has been a Patent Examiner in ths U. S. Patent office, a chemical engineer and an attorney, member of the bar of the U. S. Supreme Court, and so posseeses the highest qualifications for writing on this very interesting suhject. He has filled his book with numerous charts which examine completely the lives, heredity, work and successes of 710 of the foremost inventors, and indicates some of the lessons that may be profitably learned from the experiences of these men.

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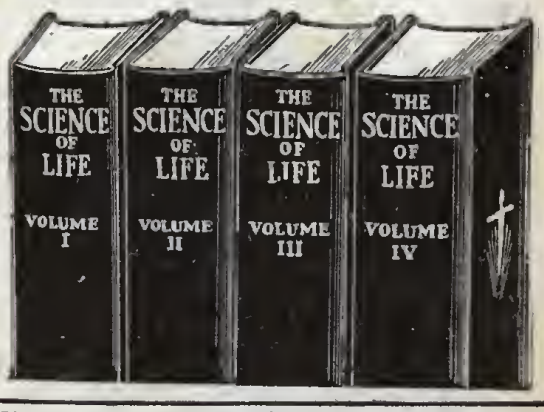

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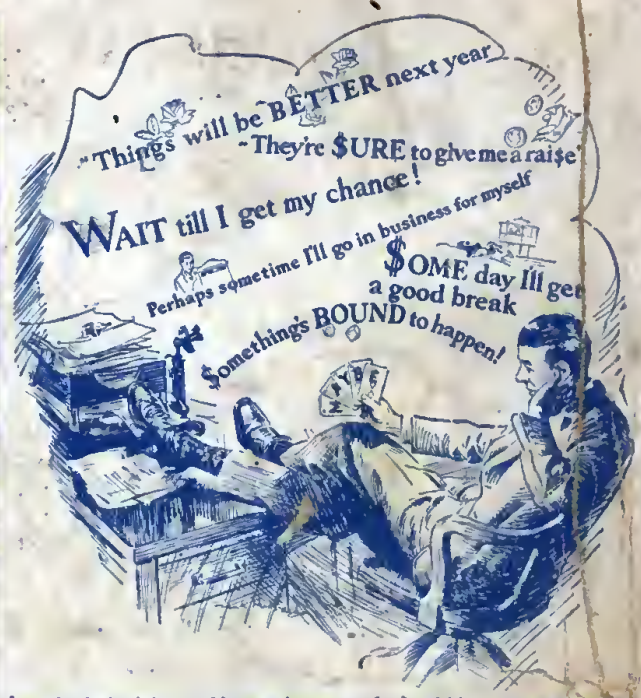

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